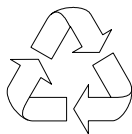


Acer Ferrari 3400 Series

Service Guide

Service guide files and updates are available on the ACER/CSD web; for more information, please refer to <http://csd.acer.com.tw>



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Revision History

Please refer to the table below for the updates made on Ferrari 3400 service guide.

| Date | Chapter | Updates |
|------|---------|---------|
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Conventions

The following conventions are used in this manual:

| | |
|------------------------|--|
| SCREEN MESSAGES | Denotes actual messages that appear on screen. |
| NOTE | Gives bits and pieces of additional information related to the current topic. |
| WARNING | Alerts you to any damage that might result from doing or not doing specific actions. |
| CAUTION | Gives precautionary measures to avoid possible hardware or software problems. |
| IMPORTANT | Reminds you to do specific actions relevant to the accomplishment of procedures. |

Preface

Before using this information and the product it supports, please read the following general information.

1. This Service Guide provides you with all technical information relating to the BASIC CONFIGURATION decided for Acer's "global" product offering. To better fit local market requirements and enhance product competitiveness, your regional office MAY have decided to extend the functionality of a machine (e.g. add-on card, modem, or extra memory capability). These LOCALIZED FEATURES will NOT be covered in this generic service guide. In such cases, please contact your regional offices or the responsible personnel/channel to provide you with further technical details.
2. Please note WHEN ORDERING FRU PARTS, that you should check the most up-to-date information available on your regional web or channel. If, for whatever reason, a part number change is made, it will not be noted in the printed Service Guide. For ACER-AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code to those given in the FRU list of this printed Service Guide. You MUST use the list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

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System Specifications

Features

This computer was designed with the user in mind. Here are just a few of its many features:

Performance

- ☐ Mobile AMD Athlon™ 64 processor
- ☐ Memory upgradeable up to 2GB DDR SDRAM with 2 slots (only one slot for user accessible)
- ☐ High-capacity, Enhanced-IDE hard disk
- ☐ Li-Ion main battery pack
- ☐ Microsoft Windows XP operating system

Display

- ☐ Thin-Film Transistor (TFT) liquid-crystal display (LCD) displaying 32-bit true colour up to 1400X1050 Super eXtended Graphics Array (SXGA+) resolution for 15.0"
- ☐ ATI® MOBILITY™ RADEON™ 9700 with 128MB of video memory
- ☐ 3D graphics engine
- ☐ Simultaneous LCD and CRT display support
- ☐ S-video for output to a television or display device that supports S-video input
- ☐ "Automatic LCD dim" feature that automatically decides the best settings for your display and conserves power
- ☐ DualView™

Multimedia

- ☐ AC'97 stereo audio
- ☐ Built-in dual speakers
- ☐ Built-in microphone
- ☐ High-speed optical drive
- ☐ Built-in slot loading optical drive (DVD Super Multi)
- ☐ 15.0" TFT SXGA+ (1400x1050 resolution) panel
- ☐ Audio input and output jacks

Connectivity

- ☐ High-speed fax/data modem port
- ☐ Gigabit Ethernet (GbE) port
- ☐ Fast infrared wireless communication
- ☐ Four USB 2.0 (Universal Serial Bus) ports
- ☐ IEEE 1394 port
- ☐ Invilink 802.11g wireless LAN (manufacturing optional)
- ☐ Bluetooth ready
- ☐ SD/MMC/SM/MS memory slot

Keyboard and Pointing Device

- ☐ 84-/85-/88-key Windows keyboard
- ☐ Sleek, smooth and stylish design
- ☐ Acer FinTouch full-sized curved keyboard
- ☐ Ergonomically-centered touchpad pointing device with four-way scroll button

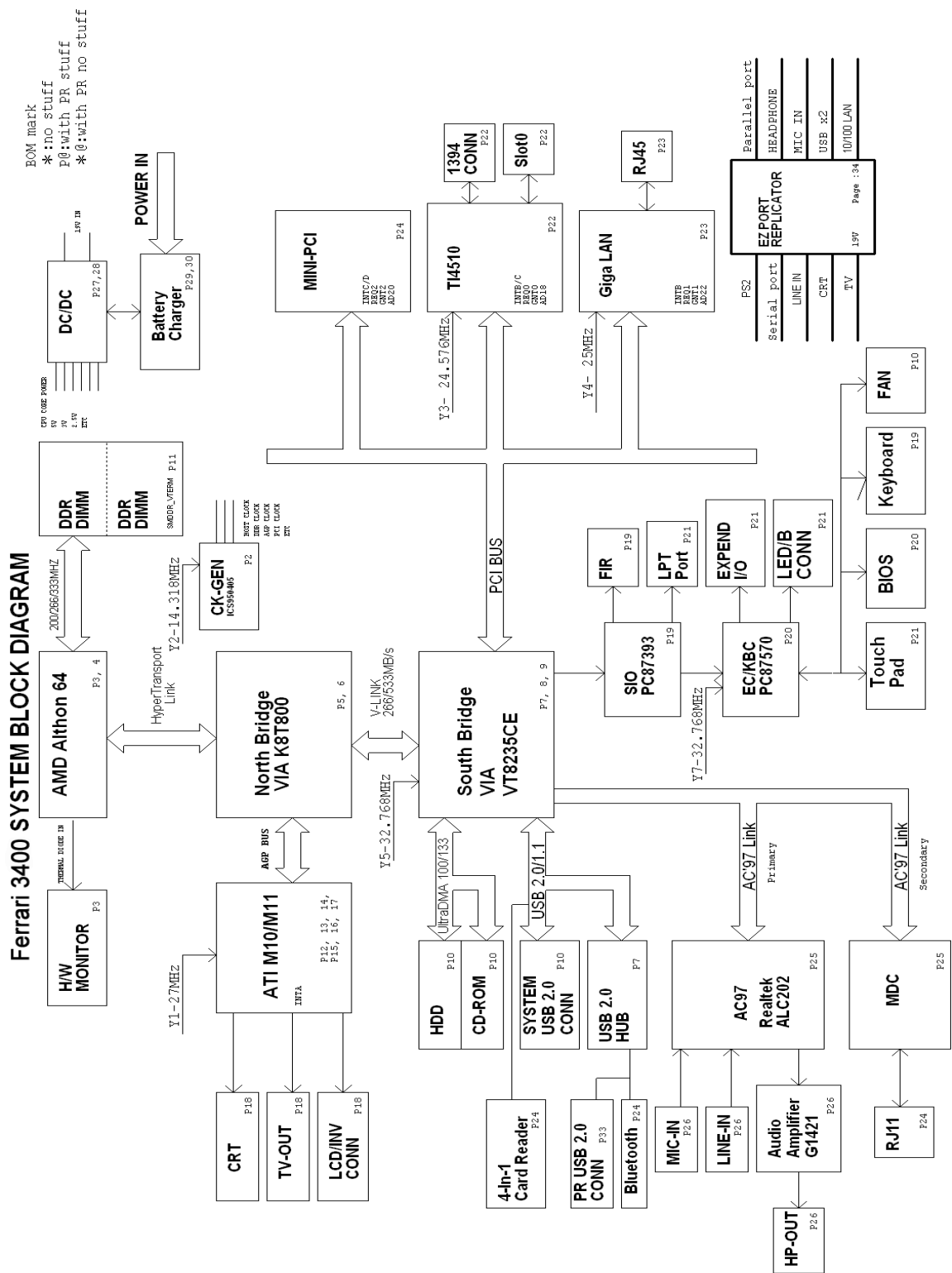
Expansion

- ☐ One type II CardBus PC Card slot
- ☐ Upgradeable memory

I/O Ports

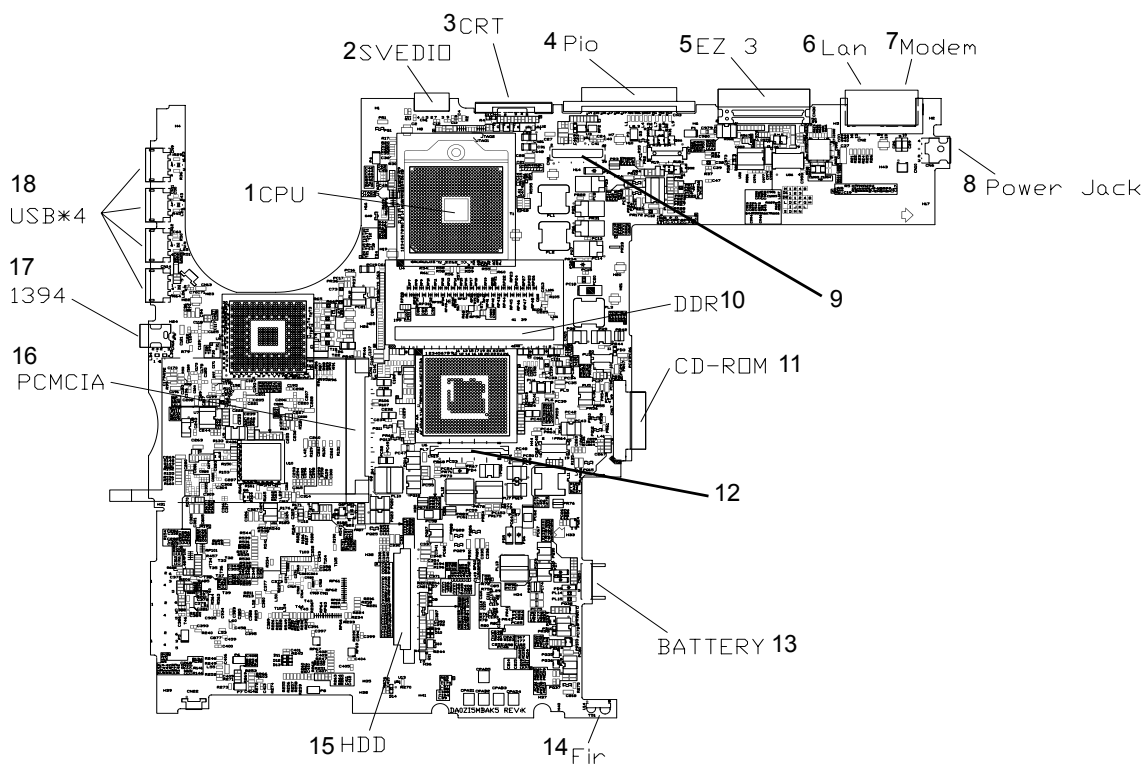
- ☐ One Card bus type II slot
- ☐ One RJ-11 jack for 56Kbps fax/modem
- ☐ One RJ-45 jack for LAN
- ☐ One DC-in jack for AC adapter
- ☐ One ECP/EPP compliant 25-pin parallel port
- ☐ One external 15-pin VGA port
- ☐ One speaker/headphone/line-out jack
- ☐ One audio line-in jack
- ☐ One microphone-in jack
- ☐ Four USB 2.0 ports
- ☐ One IEEE 1394 port
- ☐ One S-video (NTSC/PAL) output port
- ☐ 4-in-1 Card Reader (Manufacture optional)
- ☐ FIR (Fast Infrared) port
- ☐ 100-pin expansion port supporting Acer EasyPort or I/O port replicator

System Block Diagram



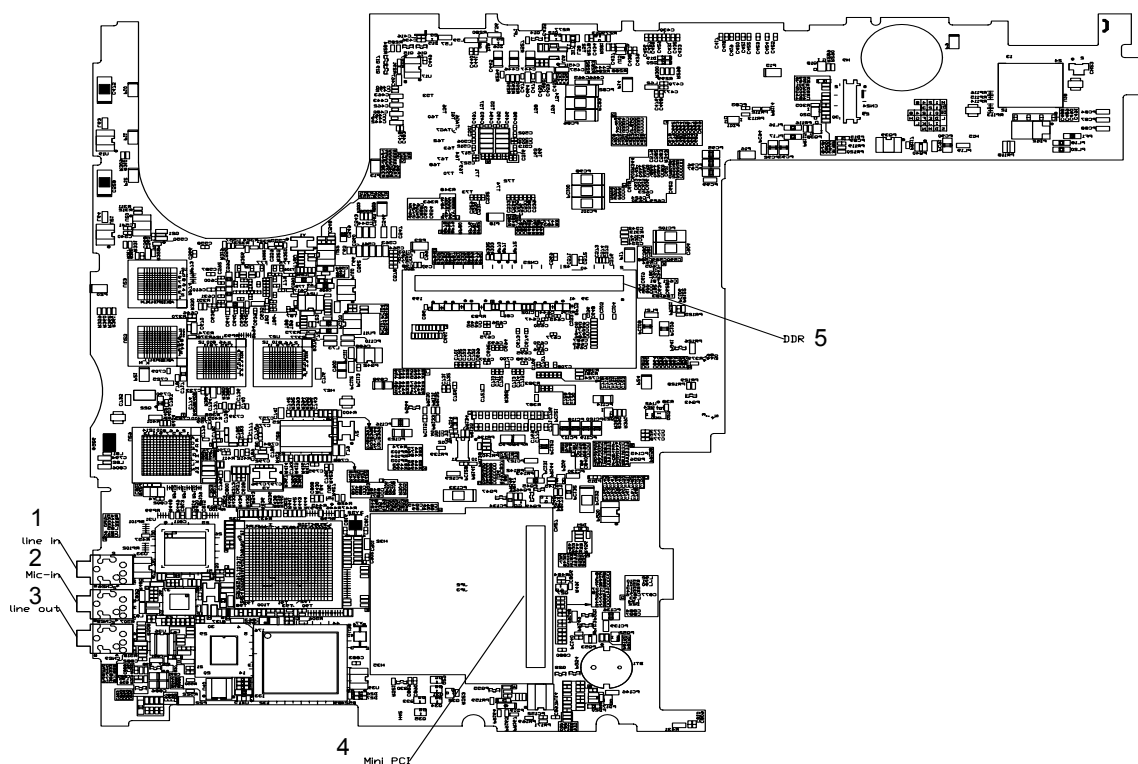
Board Layout

Top View



| | | | |
|---|--------------------|----|-------------------------|
| 1 | CPU socket | 10 | DIMM Socket |
| 2 | S-video port | 11 | Optical drive connector |
| 3 | CRT | 12 | Keyboard connector |
| 4 | Printer port | 13 | Main battery connector |
| 5 | EazyPort connector | 14 | FIR |
| 6 | RJ45 | 15 | HDD connector |
| 7 | RJ11 | 16 | PCMCIA slot |
| 8 | Power jack | 17 | IEEE 1394 port |
| 9 | LCD connector | 18 | Four USB ports |

Bottom View



- 1 Line-in connector
- 2 Microphone-in connector
- 3 Line-out connector
- 4 Mini PCI connector
- 5 DIMM socket

Outlook View

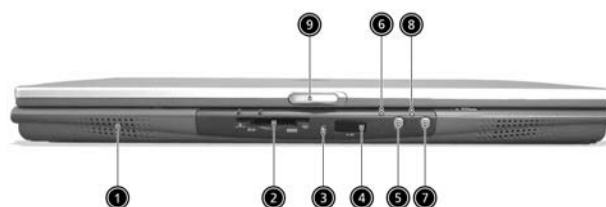
A general introduction of ports allow you to connect peripheral devices, as you would with a desktop PC.

Front Open View



| # | Icon | Item | Description |
|---|------|--|--|
| 1 | | Display screen | Also called LCD (liquid-crystal display), displays computer output. |
| 2 | | Power button | Turns on the computer. |
| 3 | | Touchpad | Touch-sensitive pointing device which functions like a computer mouse. |
| 4 | | Click buttons (left, center and right) | The left and right buttons function like the left and right mouse buttons; the center button serves as a 4-way scroll button. |
| 5 | | Palmrest | Comfortable support area for your hands when you use the computer. |
| 6 | | Keyboard | Inputs data into your computer. |
| 7 | | Status indicators | LEDs (light-emitting diode) that turn on and off to show the status of the computer, its functions and components. |
| 8 | | Microphone | Internal microphone for sound recording. |
| 9 | | Launch keys | Special keys for launching Internet browser, E-mail program and frequently used programs. Located at the top of the keyboard are five buttons. They are designated as P1, P2, P3, E-mail button and Web browser button. P1, P2 and P3 launch user-programmable applications; E-mail and Web browser launch E-mail and Internet browser applications. |

Front Panel









| # | Icon | Item | Description |
|---|------|-------------------------|---|
| 1 | | Speaker | Outputs sound. |
| 2 | | 4-in-1 memory reader | Reads cards from Smart Media, Memory Stick, MultiMedia, and Secure Digital cards. |
| 3 | | 4-in-1 status indicator | Displays activity of 4-in-1 memory reader. |
| 4 | | Infrared port | Interfaces with infrared devices (e.g., infrared printer, IR-aware computer). |
| 5 | | Bluetooth button | Starts Bluetooth functionality. |
| 6 | | Bluetooth indicator | Indicates that (optional) Bluetooth is enabled. |
| 7 | | InviLink button | Enables or disables wireless connectivity. |
| 8 | | InviLink indicator | Indicates status of wireless communication |
| 9 | | Latch | Latch for opening and closing the laptop. |

NOTE: Only one card can operate at any given time.


Left Panel



| # | Icon | Item | Description |
|---|---|-------------------------------------|--|
| 1 |  | Four (4) USB 2.0 ports | Connect to Universal Serial Bus devices (e.g., USB mouse, USB camera). |
| 2 |  | IEEE 1394 port | Connects to IEEE 1394 devices. |
| 3 |  | PC Card slot | The slot supports a standard Type II CardBus PC Card. |
| 4 | | PC Card eject button | Ejects the PC Card from the slot. |
| 5 |  | Line-in jack | Accepts audio line-in devices (e.g., audio CD player, stereo walkman). |
| 6 |  | Microphone jack | Accepts input from external microphone. |
| 7 |  | Headphone/Speaker/ Line-out jack | Connects to headphones or other line-out audio devices (speakers). |







Right Panel



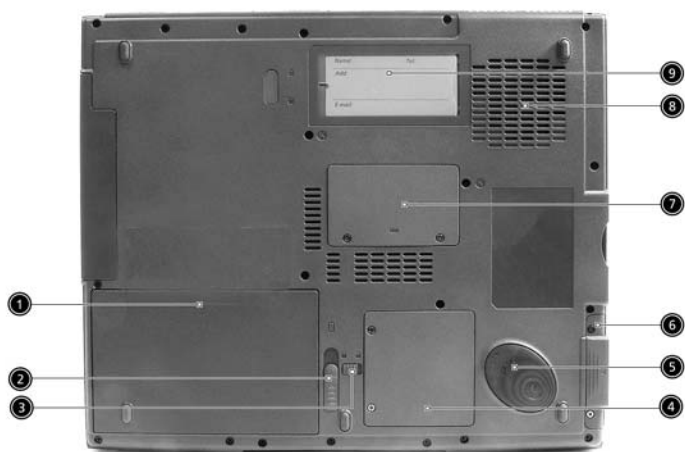
| # | Icon | Item | Description |
|---|---|---|--|
| 1 | | Slot loading optical drive eject button | Press the eject button to remove a disc from the slot loading optical drive. |
| 2 | | Optical disc access indicator | LED that indicates when an optical disc is being read or written. |
| 3 | | Optical drive eject button | Press the eject button to remove a disc from the optical drive. |
| 4 | | Optical drive emergency eject hole | Used to eject an optical disc when the computer is turned off. |
| 5 |  | Power jack | Connects to an AC adapter. |

Rear Panel



| # | Icon | Item | Description |
|---|---|-----------------------|---|
| 1 |  | Modem jack | Connects to a phone line. |
| 2 |  | Network jack | Connect to an Ethernet 10/100-based network. |
| 3 |  | Parallel port | Connects to a parallel device (e.g., parallel printer). |
| 4 |  | External display port | Connects to a display device (e.g., external monitor, LCD projector). |
| 5 |  | S-video | Connects to a television or display device with S-video input. |
| 6 |  | Security keylock | Connects to a Kensington-compatible computer security lock. |

Bottom Panel








| # | Icon | Item | Description |
|---|------|------------------------------|--|
| 1 | | Battery bay | Houses the computer's battery pack. |
| 2 | | Battery release latch | Unlatches the battery to remove the battery pack. |
| 3 | | Battery lock | Locks the battery in place. |
| 4 | | Mini-PCI slot | Slot for adding mini-PCI cards. |
| 5 | | Hard disk protector | Protects the hard disk from accidental bumps and vibration. |
| 6 | | Hard disk bay | Houses the computer's hard disk (secured by a screw). |
| 7 | | Memory compartment | Houses th computer's main memory. |
| 8 | | Cooling fan | Helps keep the computer cool. Note: Don't cover or obstruct the opening of the fan. |
| 9 | | Personal identification slot | Insert a business card or similar-sized indentification card to presonalize your computer. |

Indicators

The computer has three easy-to-read status indicators below the display screen. And two on the front of the computer.



The Power and Battery status indicators are visible even when the display is closed.

| Icon | Function | Description |
|---|----------------|--|
|  | Caps lock | Lights when Caps Lock is activated. |
|  | Num lock | Lights when Num Lock is activated. |
|  | Media Activity | Lights when the disc or optical drive is activated. |
|  | Power | Lights green when the power is on and orange when the computer is in standby mode. |
|  | Battery | Lights orange when the battery is charging. |



Using the Keyboard

The full-sized keyboard includes an embedded numeric keypad, separate cursor keys, two Windows keys and twelve function keys.

Lock Keys

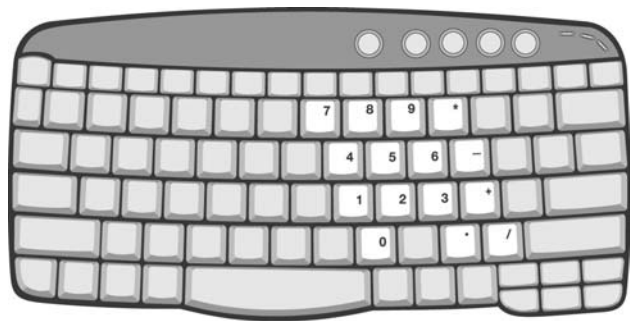
The keyboard has three lock keys which you can toggle on and off.




| Lock Key | Description |
|----------------------|---|
| Caps Lock | When Caps Lock is on, all alphabetic characters are typed in uppercase. Toggle on and off by pressing the Caps Lock key on the left of the keyboard. |
| Num lock (Fn-F11) | When Num Lock is on, the embedded numeric keypad can be used. Toggle on and off by pressing the Fn + F11 keys simultaneously. |
| Scroll lock (Fn-F12) | When Scroll Lock is on, the screen moves one line up or down when you press  and  respectively. |

Embedded Numeric Keypad

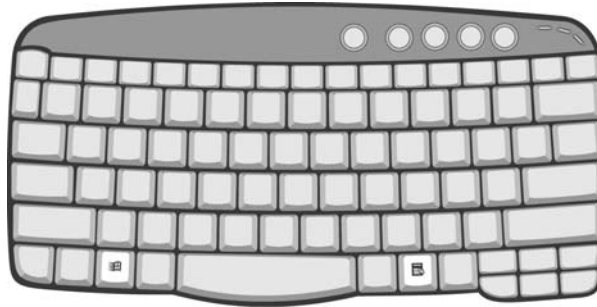
The embedded numeric keypad functions like a desktop numeric keypad. It is indicated by small characters located on the upper right corner of the keycaps. To simplify the keyboard legend, cursor-control key symbols are not printed on the keys.






| Desired Access | Num Lock On | Num Lock Off |
|--|---|--|
| Number keys on embedded keypad | Type numbers in a normal manner. | |
| Cursor-control keys on embedded keypad | Hold  while using cursor-control keys. | Hold Fn while using cursor-control keys. |
| Main keyboard keys | Hold Fn while typing letters on embedded keypad. | Type the letters in a normal manner. |

Windows Keys

The keyboard has two keys that perform Windows-specific functions.



| Key | Icon | Description |
|------------------|--|---|
| Windows logo key |  | Start button. Combinations with this key perform special functions. Below are a few examples: <ul style="list-style-type: none">+ Tab (Activates next taskbar button)+ E (Explores My Computer)+ F (Finds Document)+ M (Minimizes All) + Windows logo key + M (Undoes Minimize All)+ R (Displays the Run... dialog box) |
| Application key |  | Opens a context menu (same as a right-click). |







Hot Keys

Using the Fn key with another key creates a hot key, providing a quick and convenient method for controlling various functions.

To activate hot keys, first hold down the Fn key. Next, press the second key in the combination. Finally, release both keys.



| Hot Key | Icon | Function | Description |
|---------|----------------|--------------------------------|---|
| Fn-F1 | ? | Hot key help | Displays help on hot keys. |
| Fn-F2 | | Setup | Accesses the computer's configuration utility. |
| Fn-F3 | | Power management scheme toggle | Switches the power management scheme used by the computer (function available if supported by operating system). |
| Fn-F4 | Z ^z | Sleep | Puts the computer in Sleep mode. |
| Fn-F5 | | Display toggle | Switches display output between the display screen, external monitor (if connected) and both the display screen and external monitor. |
| Fn-F6 | | Screen blank | Turns the display screen backlight off to save power. Press any key to return. |
| Fn-F7 | | Touchpad toggle | Turns the internal touchpad on and off. |
| Fn-F8 | | Speaker toggle | Turns the speakers on and off. |
| Fn- | | Volume up | Increases the speaker volume. |

| Hot Key | Icon | Function | Description |
|---|---|-----------------|----------------------------------|
| Fn-  |  | Volume down | Decreases the speaker volume. |
| Fn-  |  | Brightness up | Increases the screen brightness. |
| Fn-  |  | Brightness down | Decreases the screen brightness |

The Euro Symbol

If your keyboard layout is set to United States-International or United Kingdom or if you have a keyboard with a European layout, you can type the Euro symbol on your keyboard.



NOTE: For US keyboard users: The keyboard layout is set when you first set up Windows. For the Euro symbol to work, the keyboard layout has to be set to United States-International.

To verify the keyboard type in Windows XP, follow the steps below:

1. Click on **Start, Control Panel**.
2. Double-click on **Regional and Language Options**.
3. Click on the **Language** tab and click on **Details**.
4. Verify that the keyboard layout used for "En English (United States)" is set to United States-International. If not, select and click on **ADD**; then select **United States-International** and click on **OK**.
5. Click on **OK**.

To type the Euro symbol:

1. Locate the Euro symbol on your keyboard.
2. Open a text editor or word processor.
3. Hold **Alt Gr** and press the Euro symbol.

NOTE: Some fonts and software do not support the Euro symbol. Please refer to www.microsoft.com/typography/faq/faq12.htm for more information.

Launch Keys

Located at the top of keyboard are five buttons. The left-most button is the power button. To the right of the power button are the four launch keys. They are designated as the mail button, the web browser button, and two programmable buttons (P1 and P2).

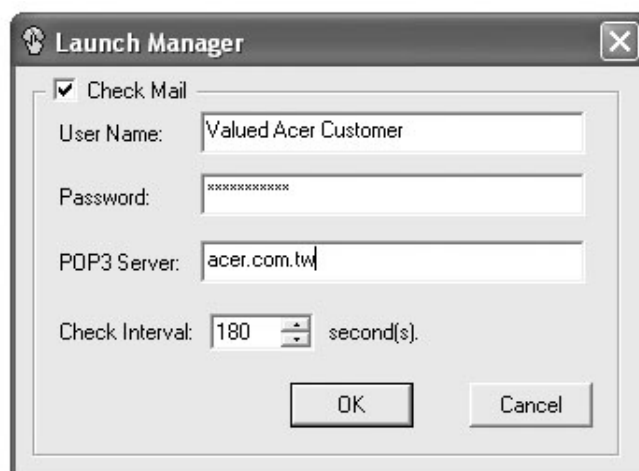


NOTE: To the left of these five launch keys is the wireless communication button. This wireless communication button works for model with 802.11b wireless LAN only.

| Launch Key | Default application |
|-------------|------------------------------|
| Mail | Email application |
| Web browser | Internet browser application |
| P1 | User-programmable |
| P2 | User-programmable |

E-mail Detection

Click right button at the Launch Manager icon on the taskbar and click on E-mail Detection. In this dialog box, you have the option to enable/disable mail checking, set the time interval for mail checking, etc. If you already have an email account, you can fill in User Name, Password and POP3 Server in the dialog box. The POP3 Server is the mail server where you get your email.



Touchpad

The built-in touchpad is a pointing device that senses movement on its surface. This means the cursor responds as you move your finger on the surface of the touchpad. The central location on the palmrest provides optimal comfort and support.



NOTE: If you are using an external USB mouse, you can press **Fn-F7** to disable the touchpad.

Touchpad Basics

The following items teach you how to use the touchpad:



- ☐ Move your finger across the touchpad to move the cursor.
- ☐ Press the left (1) and right (3) buttons located on the edge of the touchpad to do selection and execution functions. These two buttons are similar to the left and right buttons on a mouse. Tapping on the touchpad produces similar results.
- ☐ Use the 4-way scroll (2) button (top/bottom/left/and right) to scroll a page up, down, left or right. This button mimics your cursor pressing on the vertical and horizontal scroll bars of Windows applications.

| Function | Left Button | Right Button | Scroll Button | Tap |
|---------------------|--|--------------|---------------|---|
| Execute | Click twice quickly | | | Tap twice (at the same speed as double-clicking the mouse button) |
| Select | Click once | | | Tap once |
| Drag | Click and hold, then use finger to drag the cursor on the touchpad | | | Tap twice (at the same speed as double-clicking a mouse button) then hold finger to the touchpad on the second tap to drag the cursor |
| Access context menu | | Click once | | |

| Function | Left Button | Right Button | Scroll Button | Tap |
|----------|-------------|--------------|---|-----|
| Scroll | | | Click and hold the button in the desired direction (up/down/left/right) | |

NOTE: Keep your fingers dry and clean when using the touchpad. Also keep the touchpad dry and clean. The touchpad is sensitive to finger movements. Hence, the lighter the touch, the better the response. Tapping too hard will not increase the touchpad's responsiveness.

Hardware Specifications and Configurations

Processor

| Item | Specification |
|------------------|--------------------------------------|
| CPU type | AMD Mobile Athlon™ 64 |
| CPU package | packing in 754-pin Lidless μ PGA |
| CPU core voltage | 0.9V/1.2V |
| Core logic | VIA K8T800+VIA VT8235CE |

BIOS

| Item | Specification |
|-----------------------|--|
| BIOS vendor | Phneoix |
| BIOS Version | |
| BIOS ROM type | Flash ROM |
| BIOS ROM size | 512KB |
| BIOS package | PLCC |
| Supported protocols | ACPI 1.0b, PC Card 95, SM BIOS 2.3, EPP/IEEE 1284, ECP/IEEE 1284 1.7 & 1.9, PCI 2.2, PnP 1.0a, DMI 2.0, PS/2 keyboard and mouse, USB 2.0, VGA BIOS, CD-ROM bootable, IEEE 1394 |
| BIOS password control | Set by setup manual |

Second Level Cache

| Item | Specification |
|-------------------------|---------------------|
| Cache controller | Built-in CPU |
| Cache size | 512KB |
| 1st level cache control | Always enabled |
| 2st level cache control | Always enabled |
| Cache scheme control | Fixed in write-back |

System Memory

| Item | Specification |
|---------------------------------|--|
| Memory controller | AMD Mobile Athlon™ 64 built-in |
| Memory size | 0MB (no on-board memory) |
| DIMM socket number | 2 sockets |
| Supports memory size per socket | 1024MB |
| Supports maximum memory size | 2048MB (by two 1024MB SO-DIMM module) |
| Supports DIMM type | DDR Synchronous DRAM |
| Supports DIMM Speed | 333 MHz |
| Supports DIMM voltage | 2.5V |
| Supports DIMM package | 200-pin soDIMM |
| Memory module combinations | You can install memory modules in any combinations as long as they match the above specifications. |

DIMM Combinations

| Slot 1 | Slot 2 | Total Memory |
|--------|--------|--------------|
| 0MB | 256MB | 256MB |
| 0MB | 512MB | 512MB |
| 0MB | 1024MB | 1024MB |
| 256MB | 256MB | 512MB |
| 256MB | 512MB | 768MB |
| 256MB | 1024MB | 1280MB |
| 512MB | 256MB | 768MB |
| 512MB | 512MB | 1024MB |
| 512MB | 1024MB | 1536MB |
| 1024MB | 256MB | 1280MB |
| 1024MB | 512MB | 1536MB |
| 1024MB | 1024MB | 2048MB |

NOTE: Above table lists some system memory configurations. You may combine DIMMs with various capacities to form other combinations. On above table, the configuration of slot 1 and slot 2 could be reversed.

LAN Interface

| Item | Specification |
|------------------------|-------------------|
| Chipset | Broadcom BCM5788M |
| Supports LAN protocol | 10/100/1000 Mbps |
| LAN connector type | RJ45 |
| LAN connector location | Rear panel |

Modem Interface

| Item | Specification |
|---------------------------------|--|
| Chipset | South bridge/VIA VT8235CE--controller on the main board International Agere LU 97 Scorpio+CSP1037B--chipset on modem board itself |
| Data modem data baud rate (bps) | 56K |
| Supports modem protocol | V.90/V.92 MDC |
| Modem connector type | RJ11 |
| Modem connector location | Rear panel |

Bluetooth-MODEM Interface

| Item | Specification |
|------------------------|---|
| Chipset | South bridge/VIA VT8235CE--controller on the mainboard CSR BC212615BEN-E4/Agere Scorpio solution--chipset on the combo module itself |
| Data throughput | 200k bps (Blue-tooth)/56K bps (MODEM) |
| Protocol | Blue-tooth 1.1 |
| Interface | USB 1.1+MDC |
| Connector type | RJ11 (MODEM) |
| Support voice function | Yes/or NO?? |

Wireless Module 802.11g (optional device)

| Item | Specification |
|-----------------|------------------|
| Chipset | BCM4306KFB |
| Data throughput | 11M bps |
| Protocol | 802.11g |
| Interface | Mini-PCI type II |

Four-in-One Card Reader

| Item | Specification |
|-----------------|----------------------|
| Chipset | M220V0315 |
| Data throughput | USB 1.1 |
| Protocol | SMC, MS, MMC, and SD |

Hard Disc Drive Interface

| Item | | |
|--|----------------------------|-------------------------|
| Vendor & Model Name | HGST MORAGA IC25N008ATMR04 | TOSHIBA PLUTO MK8025GAS |
| Capacity (MB) | 80000 | 80000 |
| Physical Layout | | |
| Bytes per sector | 512 | 512 |
| Number of data heads | 4 | 4 |
| Number of disks | 2 | 2 |
| Logical heads | 16 | 16 |
| Logical sectors/track | 63 | 63 |
| Logical cylinders | 16,383 | 16,383 |
| Spindle speed (RPM) | 4200 RPM | 4200 RPM |
| Performance Specifications | | |
| Buffer size | 8192KB | 8192KB |
| Interface | ATA-6 | ATA-6 |
| Media data transfer rate | 350Mb/s | 342Mb/s |
| Data transfer rate (host~buffer, Mbytes/s) | 100 MB/Sec. | 100 MB/Sec. |
| DC Power Requirements | | |
| Voltage tolerance | 5V(DC) +/- 5% | 5V(DC) +/- 5% |

DVD Interface

| Item | Specification |
|---------------------------|---|
| Vendor & model name | MKE-825-CQB |
| Performance Specification | N/A |
| Transfer rate (KB/sec) | N/A |
| Data Buffer | The UJ-825-CQB drive has a data buffer that is implemented as a ring buffer. The buffer has a size of 2 Mbyte. |
| Interface | IDE/ATAPI (compliant to ATA/ATAPI-5) |
| Applicable disc format | DVD: DVD-ROM (DVD-5, DVD-9, DVD-10, DVD-18), DVD-R (3.95G/4.7G), DVD-RAM (2.6G/4.7G), DVD-RW, +R, +RW CD: CD-Audio, CD-ROM (mode 1 and mode 2), CD-ROM XA (mode 2, form 1 and form 2), CD-I (mode 2, form 1 and form 2), CD-I Ready, CD-I Bridge, CD-R, CD-RW, Photo CD, Video CD Enhanced Music CD, CD-TEXT |
| Loading mechanism | Load: semi-automatically (To load the disc in the drive, it is needed to push the disc manually.) Release: (a) Electrical Release (Eject Button) (b) Release by ATAPI command (c) Emergency Release |
| Power Requirement | |
| Input Voltage | 5 V +/- 5 % (Operating) |

Audio Interface

| Item | Specification |
|-----------------------------|--|
| Audio Controller | Realtek ALC202 |
| Audio onboard or optional | Built-in |
| Mono or Stereo | Stereo |
| Resolution | 20 bit stereo Digital to analog converter 18 bit stereo Analog to Digital converter |
| Compatibility | AC97 |
| Mixed sound source | Line-in, CD |
| Voice channel | 8/16-bit, mono/stereo |
| Sampling rate | 44,1 KHz (48K byte for AC97 interface) |
| Internal microphone | Yes |
| Internal speaker / Quantity | Yes/2 |
| Supports PnP IRQ | IRQ10 |

Speakers

| Item | Specification |
|-------------------|--|
| Number of speaker | 2 |
| Rating | 1W, max; 4 ohm |
| Connector type | Headphone out, microphone in and line-in |

Video Interface

| Item | Specification |
|------------------------|---------------------------------------|
| Chipset | ATI® MOBILITY™ RADEON 9700 (ATI M11P) |
| Package Specifications | Package, Size: 708 BGA |

Video Interface

| Item | Specification |
|---------------------------------|--|
| Supports ZV (Zoomed Video) port | No |
| Resolution Support | Support for fixed resolution displays (e.g. panels) from VGA (640x480) to wide UXGA (1600x1200) resolution LVDS: support LCD panels up to QXGA (2048x1536) 60Hz resolution TMDS: 1600x1200 at 60Hz |
| Bus Specifications | AGP bus support / PCI bus support: AGP2.0: 2X (3.3V)/ AGP 3.0: 4X (1.5V) /8X (1.5V)/ PCI 2.3 |
| Memory Type | Hynix 8MBx32 DDR SDRAM |
| VGA Ram Size | 128MB |

Parallel Port

| Item | Specification |
|---|---|
| Parallel port controller | PC87393 |
| Number of parallel port | 1 |
| Location | Rear side |
| Connector type | 25-pin D-SUB |
| Parallel port function control | Enable/Disable/Auto (BIOS or operating system chooses configuration) by BIOS Setup Note: Depending on your operating system, disabling an unused device may help free system resources for other devices. |
| Supports ECP/EPP/Bi-directional/Output only (PS/2 compatible) | Yes (set by BIOS setup) Note: When Mode is selected as EPP mode, "3BCh" will not be available. |
| Optional ECP DMA channel (in BIOS Setup) | DMA channel 3 |
| Optional parallel port I/O address (in BIOS Setup) | 378h, 278h, 3BCH |
| Optional parallel port IRQ (in BIOS Setup) | IRQ7, IRQ5 |

USB Port

| Item | Specification |
|------------------------------|------------------------------|
| Chipset | VIA VT8235CE |
| USB Compliance Level | 2.0 |
| OHCI | USB 2.0 |
| Number of USB port | 4 |
| Location | Left side |
| Serial port function control | Enable/Disable by BIOS Setup |

IEEE 1394 Port

| Item | Specification |
|--------------------------------|---------------|
| Chipset | TI PCI4510 |
| Interface USB Compliance Level | IEEE 1394 1.0 |
| Number of IEEE 1394 port | 1 |
| Location | Left side |
| Connector type | IEEE 1394 |

PCMCIA Port

| Item | Specification |
|---------------------------------|---------------|
| PCMCIA controller | TI PCI4510 |
| Supports card type | Type-II |
| Number of slots | One type-II |
| Access location | Left panel |
| Supports ZV (Zoomed Video) port | No ZV support |
| Supports 32 bit CardBus | Yes (IRQ10) |

System Board Major Chips

| Item | Controller |
|-------------------------|--|
| Core logic | VIA K8T800 (AMD Athlon™ 64-M processor, VIA K8T800+VIA VT8235CE) |
| VGA | ATI® MOBILITY™ RADEON 9700 (ATI M11P) |
| LAN | Broadcom BCM5788M |
| IEEE 1394 | TI PCI4510 |
| USB 2.0 | VIA VT8235CE embedded USB controller |
| Super I/O controller | NS PC87393 |
| MODEM | South bridge/VIA VT8235CE |
| Blue tooth | South bridge/VIA VT8235CE |
| Wireless 802.11g | BCM4306KFB |
| PCMCIA | TI PCI4510 |
| Audio | RealTek ALC202 |
| Four-in-one card reader | M220V0315 |
| Touchpad | Synaptics TM41P-353 |
| IR | Vishay TFU6102F |

Keyboard

| Item | Specification |
|--|-----------------|
| Keyboard controller | NS 87570 C4 |
| Keyboard vendor & model name | DARFON |
| Total number of keypads | 84-/85-/88- key |
| Windows logo key | Yes |
| Internal & external keyboard work simultaneously | Yes |

Battery

| Item | Specification |
|------------------------|---|
| Vendor & model name | Simplo/Sanyo |
| Battery Type | Li-ion |
| Pack capacity | 4400 Ah |
| Cell voltage | 3.7V/cell |
| Number of battery cell | 8 |
| Package configuration | 4 cells in series, 2 series in parallel |

Battery

| Item | Specification |
|-----------------|---------------|
| Package voltage | 14.8V |

LCD

| Item | | | |
|---|---|-------------------------|------------------------|
| Vendor & model name | CMO IDT N150P3 | AUO B150PG03 | QDI QD15FL02 |
| Screen Diagonal (mm) | 380.625 | N/A | 380 |
| Active Area (mm) | 304.5 (H) x 228.375 (V) | 304.5 (H) x 228.375 (V) | 304.1 (H) x 228.1 (V) |
| Display resolution (pixels) | 1400x1050 SXGA+ | 1400x1050 SXGA+ | 1400x1050 SXGA+ |
| Pixel Pitch | 0.2175x0.2175 | 0.2175x0.2175 | 0.2175x0.2175 |
| Pixel Arrangement | R.G.B. Vertical Stripe | R.G.B. Vertical Stripe | R.G.B. Vertical Stripe |
| Display Mode | Normally Black | Normally White | Normally White |
| Typical White Luminance (cd/m ²) also called Brightness | 200 | 200 | 200 |
| Luminance Uniformity | N/A | N/A | 1.4 |
| Contrast Ratio | 400 | 400 | 400 |
| Response Time (Optical Rise Time/Fall Time) | 60/120msec | 25ms | 5/20ms |
| Nominal Input Voltage VDD | +3.3V Typ. | +3.3V Typ. | +3.3V Typ. |
| Typical Power Consumption (watt) | 6.1 typ./7.0 max. | 5.9 typ. | N/A |
| Weight | 575 | 575 | 570 |
| Physical Size(mm) | 317.3x242.0x6.2 | 317.3x242.0x6.3 | 217.3x242.0x5.8/6.0 |
| Electrical Interface | 8 pairs LVDS (Even/Odd R/G/B Data (6 bit), 3 sync singals, Clock) | 2 channel LVDS | 2 channel LVDS |
| Support Color | 262K colors (RGB 6-bit data driver) | 262,144 colors | 262,144 colors |
| Viewing Angle (degree) Horizontal: Right/Left Vertical: Upper/Lower | 85/85 85/85 | 10/30 40/40 | 60/60 60/45 |
| Temperature Range(° C) Operating Storage (shipping) | 0 to +50 -20 to +60 | 0 to +50 -20 to +60 | 0 to +50 -25 to +65 |

AC Adaptor

| Item | Specification |
|---------------|--|
| Model number | LITE- ON PA-1900-05QA, 3pins LSE 0202C1990, 3pins |
| Input rating | 90VAC to 264VAC, 47Hz to 63Hz |
| Output rating | 75W, 19V (18.8V, min to 20V, max), 4A (0A, min to 4A, max) |

System Power Management

| ACPI mode | Power Management |
|----------------|--|
| Mech. Off (G3) | All devices in the system are turned off completely. |

System Power Management

| ACPI mode | Power Management |
|---------------------|--|
| Soft Off (G2/S5) | OS initiated shutdown. All devices in the system are turned off completely. |
| Working (G0/S0) | Individual devices such as the CPU and hard disk may be power managed in this state. |
| Suspend to RAM (S3) | CPU set power down VGA Suspend PCMCIA Suspend Audio Power Down Hard Disk Power Down CD-ROM Power Down Super I/O Low Power mode |
| Save to Disk (S4) | Also called Hibernation state. System saves all system states and data onto the disk prior to power off the whole system. |

Power Management

| Power Saving Mode | Phenomenon |
|---|---|
| Standby Mode Enter Standby Mode when 1.Standby/Hibernation hot-key is pressed and system is not ready to enter Hibernation mode. 2.System standby/ Hibernation timer expires and system is not ready to enter Hibernation mode. | <input type="checkbox"/> The buzzer beeps <input type="checkbox"/> The Sleep indicator lights up |
| Hibernation Mode Enter Hibernation Mode (suspend to HDD) when 1.Hibernation hot-key is pressed and system is ready to enter Hibernation mode 2.System Hibernation timer expires and system is ready to enter Hibernation mode. | <input type="checkbox"/> All power shuts off |
| Display Standby Mode Keyboard, built-in touchpad, and an external PS/2 pointing device are idle for a specified period. | <input type="checkbox"/> The display shuts off |
| Hard Disk Standby Mode Hard disk is idle within a specified period of time. | <input type="checkbox"/> Hard disk drive is in standby mode. (spindle turned-off) |

Environmental Requirements

| Item | Specification |
|--------------------|---|
| Temperature | |
| Operating | +5~+35 °C |
| Non-operating | -20~+65 °C |
| Humidity | |
| Operating | 20% to 80% RH, non-condensing without diskette 20% to 80% RH, non-condensing with diskette |
| Non-operating | 20% to 80% RH, non-condensing (Unpacked) |
| Non-operating | 20% to 80% RH, non-condensing (Storage package) |
| Vibration | |

Environmental Requirements

| Item | Specification |
|--------------------------|-------------------------------------|
| Operating | 5~250Hz 0.5Grms, 15mins per axis |
| Non-operating (unpacked) | 1.04 Grms, 2-200Hz 15 mins per axis |
| Non-operating (packed) | 1.04 Grms, 2-200Hz 15 mins per axis |

Mechanical Specification

| Item | Specification |
|------------|---|
| Dimensions | 330(W) x 272(D) x 31.8(H)mm |
| Weight | 6.64lbs (3.01kg) for 15.1"LCD model with battery |
| I/O Ports | One Card bus type II slot One RJ-11 jack for 56Kbps fax/modem One RJ-45 jack for LAN One DC-in jack for AC adapter One ECP/EPP compliant 25-pin parallel port One external 15-pin VGA port One speaker/headphone/line-out jack One audio line-in jack One microphone-in jack Four USB 2.0 ports One IEEE 1394 port One S-video (NTSC/PAL) output port 4-in-1 Card Reader (Manufacture optional) FIR (Fast Infrared) port 100-pin expansion port supporting Acer EasyPort or I/O port replicator |
| Drive Bays | One |
| Material | Plastic |
| Indicators | There are 9 LEDs totally: Caps lock, Num lock, media activity, power, battery, InviLink, Bluetooth, 4-in-1 status, and optical disc access indicators |
| Switch | Power |

System Utilities

BIOS Setup Utility

The BIOS Setup Utility is a hardware configuration program built into your computer's BIOS (Basic Input/Output System).

Your computer is already properly configured and optimized, and you do not need to run this utility. However, if you encounter configuration problems, you may need to run Setup. Please also refer to Chapter 4 Troubleshooting when problem arises.

To activate the BIOS Utility, press **F2** during POST (when "Press <F2> to enter Setup" message is prompted on the bottom of screen).











Press **F2** to enter setup. Press <F12> during POST to enter multi-boot menu. In this menu, user can change boot device without entering BIOS SETUP Utility.

| PhoenixBIOS Setup Utility | | | | | |
|--|------|----------|----------|------|------|
| Info. | Main | Advanced | Security | Boot | Exit |
| <div> <div>CPU Type:</div> <div>Mobile AMD Athlon(tm) 64 Processor 3000+</div> </div> <div> <div>CPU Speed</div> <div>2000 MHz</div> </div> <div> <div>HDD Model Name:</div> <div>IC25N080ATMR04-0</div> </div> <div> <div>HDD Serial Number:</div> <div>MRG467K4HAKAKH</div> </div> <div> <div>ATAPI Device:</div> <div>MATSHITADVD-RAM UJ-825S</div> </div> <div> <div>System BIOS Ver:</div> <div>3C14</div> </div> <div> <div>VGA BIOS Ver:</div> <div>ATi 008.017M.123.000</div> </div> <div> <div>KBC Ver:</div> <div>1A26</div> </div> <div> <div>Serial Number</div> <div>LXT123456704360014EF00</div> <div>22 Byte</div> </div> <div> <div>Asset Tag Number:</div> <div>N/A</div> <div>32 Byte</div> </div> <div> <div>Product</div> <div>Ferrari 3400</div> <div>16 Byte</div> </div> <div> <div>Manufacturer Name:</div> <div>Acer</div> <div>16 Byte</div> </div> <div> <div>UUID:</div> <div>xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx</div> <div>16 Byte</div> </div> | | | | | |
| <div> <div>F1 Help</div> <div>↑↓ Select Item</div> <div>F5/F6 Change Values</div> <div>F9 Setup Defaults</div> </div> <div> <div>Esc Exit</div> <div>←→ Select Menu</div> <div>Enter Select ▶ Sub-Menu</div> <div>F10 Save and Exit</div> </div> | | | | | |

Navigating the BIOS Utility

There are six menu options: Info., Main, System Devices, Security, Boot, and Exit.

Follow these instructions:

- ☐ To choose a menu, use the cursor left/right keys ( ).
- ☐ To choose a parameter, use the cursor up/down keys ( ).
- ☐ To change the value of a parameter, press  or .
- ☐ A plus sign (+) indicates the item has sub-items. Press  to expand this item.
- ☐ Press  while you are in any of the menu options to go to the Exit menu.
- ☐ In any menu, you can load default settings by pressing . You can also press  to save any changes made and exit the BIOS Setup Utility.

NOTE: You can change the value of a parameter if it is enclosed in square brackets. Navigation keys for a particular menu are shown on the bottom of the screen. Help for parameters are found in the Item Specific Help part of the screen. Read this carefully when making changes to parameter values.

This menu provides you the information of the system.

Infomation

| PhoenixBIOS Setup Utility | | | |
|---------------------------|--|----------|----------|
| Info. | Main | Advanced | Security |
| Boot | | | |
| Exit | | | |
| CPU Type: | Mobile AMD Athlon(tm) 64 Processor 3000+ | | |
| CPU Speed | 2000 MHz | | |
| HDD Model Name: | IC25N080ATMR04-0 | | |
| HDD Serial Number: | MRG467K4HAKAKH | | |
| ATAPI Device: | MATSHITADVD-RAM UJ-825S | | |
| System BIOS Ver: | 3C14 | | |
| VGA BIOS Ver: | ATi 008.017M.123.000 | | |
| KBC Ver: | 1A26 | | |
| Serial Number | LXT123456704360014EF00 | 22 Byte | |
| Asset Tag Number: | N/A | 32 Byte | |
| Product | Ferrari 3400 | 16 Byte | |
| Manufacturer Name: | Acer | 16 Byte | |
| UUID: | xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | 16 Byte | |

| | | | |
|----------|----------------|-------------------------|-------------------|
| F1 Help | ↑↓ Select Item | F5/F6 Change Values | F9 Setup Defaults |
| Esc Exit | ←→ Select Menu | Enter Select ▶ Sub-Menu | F10 Save and Exit |

| Parameter | Description |
|---------------------|---|
| HDD Model Name | This field shows the model name of HDD installed on primary IDE master. |
| HDD Serial Number | This field displays the serial number of HDD installed on primary IDE master. |
| ATAPI Device | This field displays the mofel name of devices installed on secondary IDE master. The hard disk drive or optical drive model name is automatically detected by the system. |
| ATAPI Serial Number | This field shows the serial number of devices installed on secondary IDE master. |
| Serial Number | This field displays the serial number of this unit. |
| UUID Number | This will be visible only when there is an internal LAN device present. UUID=16bytes in length |

Main

The Main screen displays a summary of your computer hardware information, and also includes basic setup parameters. It allows the user to specify standard IBM PC AT system parameters.

| PhoenixBIOS Setup Utility | | | | | |
|---|----------------|-------------------------|----------|--|------|
| Info. | Main | Advanced | Security | Boot | Exit |
| | | | | Item Specific Help | |
| System Time: [14:06:58] | | | | <Tab>, <Shift-Tab>, or <Enter> selects field. | |
| System Date: [09/13/2004] | | | | | |
| System Memory: 624 KB Shows system base memory size | | | | | |
| Extended Memory: 522240 KB Shows extended memory size | | | | | |
| Video Memory 128 MB VGA memory size | | | | | |
| Quiet Boot: [Enabled] | | | | | |
| Power on Display: [Auto] | | | | | |
| LCD Auto Dim: [Enabled] | | | | | |
| Network Boot: [Enabled] | | | | | |
| F12 Boot Menu: [Disabled] | | | | | |
| | | | | | |
| F1 Help | ↑↓ Select Item | F5/F6 Change Values | | F9 Setup Defaults | |
| Esc Exit | ←→ Select Menu | Enter Select ▶ Sub-Menu | | F10 Save and Exit | |

NOTE: The screen above is for reference only. Actual values may differ.

The table below describes the parameters in this screen. Settings in **boldface** are the default and suggested parameter settings.

| Parameter | Description | Format/Option |
|------------------|--|---|
| System Time | Sets the system time. | Format: HH:MM:SS (hour:minute:second) System Time |
| System Date | Sets the system date. | Format MM/DD/YYYY (month/day/ year) System Date |
| System Memory | This field reports the memory size of system base memory. Memory size is fixed to 640KB | |
| Extended Memory | This field reports the memory size of the extended memory in the system. Extended Memory size=Total memory size-1MB | |
| Video Memory | Shows the VGA memory size. The default value is set to 128MB | |
| Quiet Boot | Determines if Customer Logo will be displayed or not; shows Summary Screen is disabled or enabled. Enabled: Customer Logo is displayed, and Summary Screen is disabled. Disabled: Customer Logo is not displayed, and Summary Screen is enabled. | Option: Enabled or Disabled |
| Power on display | Auto: During power process, the system will detect if any display device is connected on external video port. If any external display device is connected, the power on display will be in CRT (or projector) only mode. Otherwise it will be in LCD only mode. Both: Simultaneously enable both the integrated LCD screen and the system's external video port (for an external CRT or projector). | Option: Auto or Both |
| LCD Auto Dim | Determines if the system will automatically dim the LCD brightness in order to save power when AC power is not present. | Option: Enabled or Disabled |
| F12 Boot Menu | Enables or disables Boot Menu function during POST. | Option: Disabled or Enabled |

NOTE: The sub-items under each device will not be shown if the device control is set to disable or auto. This is because the user is not allowed to control the settings in these cases.

Advanced

The Advanced menu screen contains parameters involving your hardware devices. It also provides advanced settings of the system.

| PhoenixBIOS Setup Utility | | | | | |
|--|-----------------|-------------------------|-------------------|------|--|
| Info. | Main | Advanced | Security | Boot | Exit |
| Serial port A: [Enabled] Base I/O address: [3F8] Interrupt: [IRQ 4] Infrared Port: [Enabled] Base I/O address: [2F8] Interrupt: [IRQ 3] DMA channel [DMA1] Parallel port: [Enabled] Mode: [ECP] Base I/O address: [378] Interrupt: [IRQ 7] DMA channel [DMA3] | | | | | Item Specific Help Configure Infrared Port using options: [Disable] No configuration [Enabled] User configuration [Auto] BIOS or OS chooses configuration (OS Controlled) Displayed when controlled by OS |
| F1 Help | ↑ ↓ Select Item | F5/F6 Change Values | F9 Setup Defaults | | |
| Esc Exit | ← → Select Menu | Enter Select ► Sub-Menu | F10 Save and Exit | | |

The table below describes the parameters in the screen. Settings in **boldface** are the default and suggested parameter settings.

| Parameter | Description | Options |
|---------------------|--|--|
| Infrared Port (FIR) | Enables, disables or auto detects the infrared port. | Disabled /Enabled/Disabled/Auto |
| Parallel Port | Enables, disables or auto detects the parallel port. | Enabled /Disabled/Auto |
| Mode | Sets the operation mode of the parallel port. | ECP , EPP, Normal or Bi-directional |
| Base I/O address | Sets the I/O address of the parallel port. This parameter is enabled only if Mode is set to ECP or Bi-directional. This parameter is enabled only if Mode is set to ECP. | 378h /278h/3BCH |
| Interrupt | Sets the interrupt request of the parallel port. | IRQ7 /IRQ5 |
| DMA channel | Sets a DMA channel for the printer to operate in ECP mode. This parameter is enabled only if Mode is set to ECP. | DMA3 /DMA1 |

Security

The Security screen contains parameters that help safeguard and protect your computer from unauthorized use.

PhoenixBIOS Setup Utility

Info.

Main

Advanced

Security

Boot

Exit

| | | Item Specific Help |
|-------------------------|------------|---|
| Supervisor Password Is: | Clear | Supervisor Password controls accesses of the whole setup utility. |
| User Password Is: | Clear | |
| HDD Password Is: | Clear | |
| HDD Master ID: | 47874773 | |
| Set Supervisor Password | [Enter] | |
| Set User Passord | [Enter] | |
| Set HDD Password | [Enter] | |
| Password on Boot | [Disabled] | |

F1 Help

↑ ↓ Select Item

F5/F6 Change Values

F9 Setup Defaults

Esc Exit

← → Select Menu

Enter Select ▶ Sub-Menu

F10 Save and Exit




The table below describes the parameters in this screen. Settings in **boldface** are the default and suggested parameter settings.

| Parameter | Description | Option |
|-------------------------|--|----------------------------|
| Supervisor Password is | Shows the setting of the Supervisor password | Clear or Set |
| User Password is | Shows the setting of the uer password. | Clear or Set |
| HDD Password is | This feature is available to user when Supervisor password is set. Password can be written on HDD only when Supervisor password or user password is set and password on HDD is set to enabled. Supervisor Password is written to HDD only when Supervisor password is being set. User password is written to HDD when both passwords are set. When both Supervisor and user password are present, both passwords can unlock the HDD. | Disabled or Enabled |
| HDD Master ID | You can use HDD Master ID and MasterID program together to remove HDD password. Note: Remove HDD password SOP wll not be released in service guide because of security concern. Please request Remove HDD SOP via tracking system-- http://csd.acer.com.tw | |
| Set Supervisor Password | Press Enter to set the supervisor password. When set, this password protects the BIOS Setup Utility from unauthorized access. | |
| Set User Password | Press Enter to set the user password. When set, this password protects the BIOS Setup Utility from unauthorized access. Note: The user password may not be set unless the supervisor password is set. If the user wishes to have only one password, please set supervisor password. | |
| Set HDD Password | Press Enter to set the HDD password. When set, this password protects the internal hard disk from unauthorized access. | |
| Password on Boot | Defines whether a password is required or not while the events defined in this group happened. The following sub-options are all requires the Supervisor password for changes and should be grayed out if the user password was used to enter setup. | Disabled or Enabled |

NOTE: When you are prompted to enter a password, you have three tries before the system halts. Don't forget your password. If you forget your password, you may have to return your notebook computer to your dealer to reset it.

Setting a Password



Follow these steps as you set the user or the supervisor password:

1. Use the  and  keys to highlight the Set Supervisor Password parameter and press the  key. The Set Supervisor Password box appears:

| Set Supervisor Password | | |
|-------------------------|---|---|
| Enter New Password | [|] |
| Confirm New Password | [|] |




2. Type a password in the “Enter New Password” field. The password length can not exceeds 8 alphanumeric characters (A-Z, a-z, 0-9, not case sensitive). Retype the password in the “Confirm New Password” field.

IMPORTANT: Be very careful when typing your password because the characters do not appear on the screen.




3. Press  .
After setting the password, the computer sets the User Password parameter to “Set”.
4. If desired, you can opt to enable the Password on boot parameter.
5. When you are done, press  to save the changes and exit the BIOS Setup Utility.

Removing a Password




Follow these steps:

1. Use the  and  keys to highlight the Set Supervisor Password parameter and press the  key. The Set Password box appears:

| Set Supervisor Password | | |
|-------------------------|---|---|
| Enter current password | [|] |
| Enter New Password | [|] |
| Confirm New Password | [|] |



2. Type the current password in the Enter Current Password field and press  .
3. Press  twice **without** typing anything in the Enter New Password and Confirm New Password fields. The computer then sets the Supervisor Password parameter to “Clear”.
4. When you have changed the settings, press  to save the changes and exit the BIOS Setup Utility.

Changing a Password

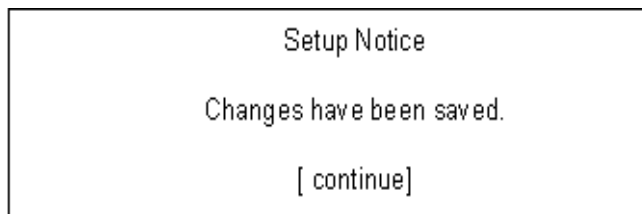
1. Use the  and  keys to highlight the Set Supervisor Password parameter and press the  key. The Set Password box appears:

| Set Supervisor Password | | |
|-------------------------|---|---|
| Enter current password | [|] |
| Enter New Password | [|] |
| Confirm New Password | [|] |

2. Type the current password in the Enter Current Password field and press  .

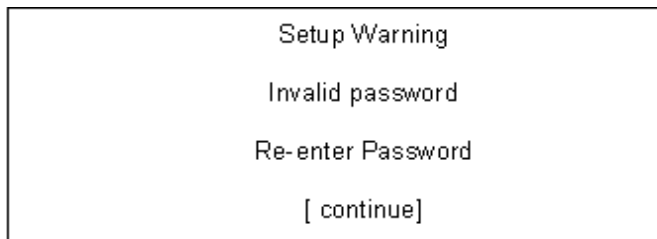
3. Type a password in the Enter New Password field. Retype the password in the Confirm New Password field.
4. Press . After setting the password, the computer sets the User Password parameter to "Set".
5. If desired, you can enable the Password on boot parameter.
6. When you are done, press  to save the changes and exit the BIOS Setup Utility.

If the verification is OK, the screen will display as following.

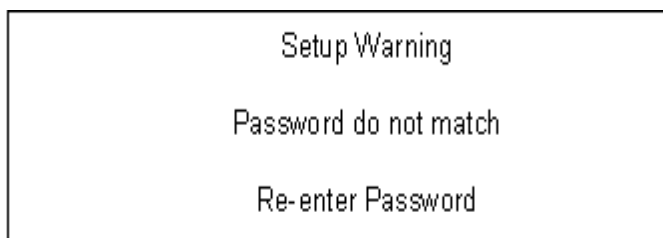


The password setting is complete after the user presses .

If the current password entered does not match the actual current password, the screen will show you the Setup Warning.



If the new password and confirm new password strings do not match, the screen will display the following message.



Boot

This menu allows the user to decide the order of boot devices to load the operating system. Bootable devices includes the distette drive in module bay, the onboard hard disk drive and the CD-ROM in module bay.

PhoenixBIOS Setup Utility

Info.

Main

Advanced

Security

Boot

Exit

+Hard Drive

Floppy Devices

CD-ROM/DVD Drive

Network Boot

Item Specific Help

+ and - indicate device categories. Use <Enter> to expand/collapses.

Boot order is top-down using only the top device in each category.

Use <F6> and <F5> to move highlighted item up and down.

F1 Help

↑↓ Select Item

F5/F6 Change Values

F9 Setup Defaults

Esc Exit

←→ Select Menu

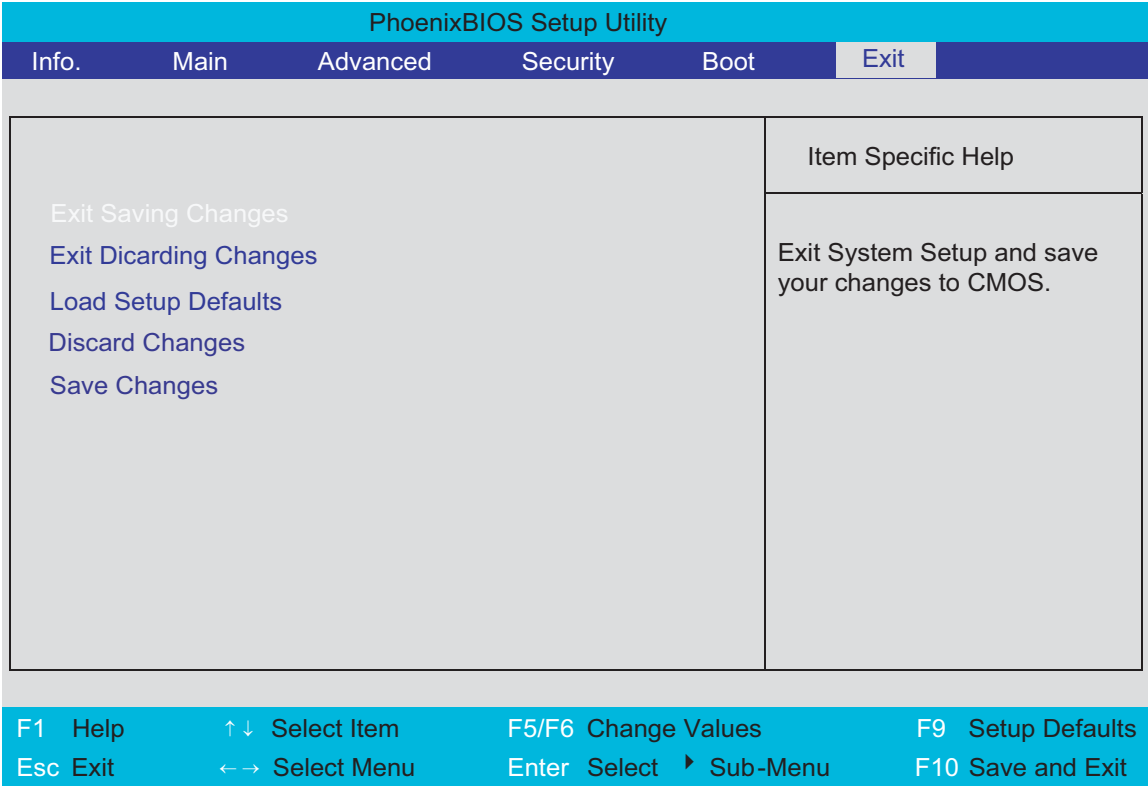
Enter Select

▶ Sub-Menu

F10 Save and Exit

Exit

The Exit screen contains parameters that help safeguard and protect your computer from unauthorized use.



The table below describes the parameters in this screen.

| Parameter | Description |
|-------------------------|---|
| Exit Saving Changes | Exit System Setup and save your changes to CMOS. |
| Exit Discarding Changes | Exit utility without saving setup data to CMOS. |
| Load Setup Default | Load default values for all SETUP item. |
| Discard Changes | Load previous values from CMOS for all SETUP items. |
| Save Changes | Save Setup Data to CMOS. |

BIOS Flash Utility

The BIOS flash memory update is required for the following conditions:

- ☐ New versions of system programs
- ☐ New features or options
- ☐ Restore a BIOS when it becomes corrupted.

Use the Phlash utility to update the system BIOS flash ROM.

NOTE: If you do not have a crisis recovery diskette at hand, then you should create a **Crisis Recovery Diskette** before you use the Phlash utility.

NOTE: Do not install memory-related drivers (XMS, EMS, DPMI) when you use the Phlash.

NOTE: Please use the AC adaptor power supply when you run the Phlash utility. If the battery pack does not contain enough power to finish BIOS flash, you may not boot the system because the BIOS is not completely loaded.

Follow the steps below to run the Phlash.

1. Prepare a bootable diskette.
2. Copy the Phlash utilities to the bootable diskette.
3. Then boot the system from the bootable diskette. The Phlash utility has auto-execution function.

Machine Disassembly and Replacement

This chapter contains step-by-step procedures on how to disassemble the notebook computer for maintenance and troubleshooting.

To disassemble the computer, you need the following tools:

- ☐ Wrist grounding strap and conductive mat for preventing electrostatic discharge
- ☐ Small Philips screwdriver
- ☐ Philips screwdriver
- ☐ Flat blade screwdriver
- ☐ Plastic flat blade screwdriver
- ☐ Hex wrench (2.5mm)
- ☐ Tweezers

NOTE: The screws for the different components vary in size. During the disassembly process, group the screws with the corresponding components to avoid mismatch when putting back the components. When you remove the stripe cover, please be careful not to scrape the cover.

General Information

Before You Begin

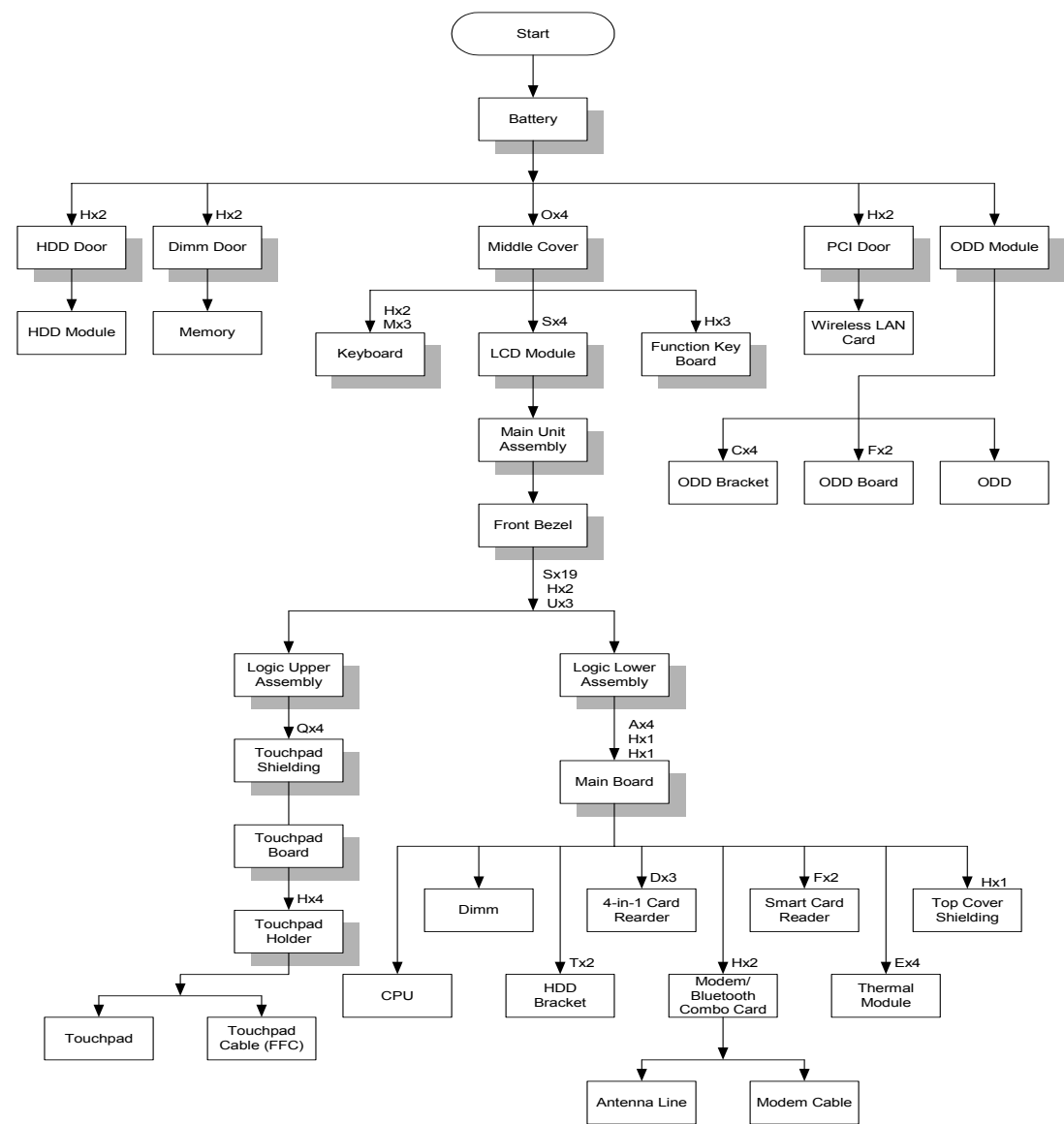
Before proceeding with the disassembly procedure, make sure that you do the following:

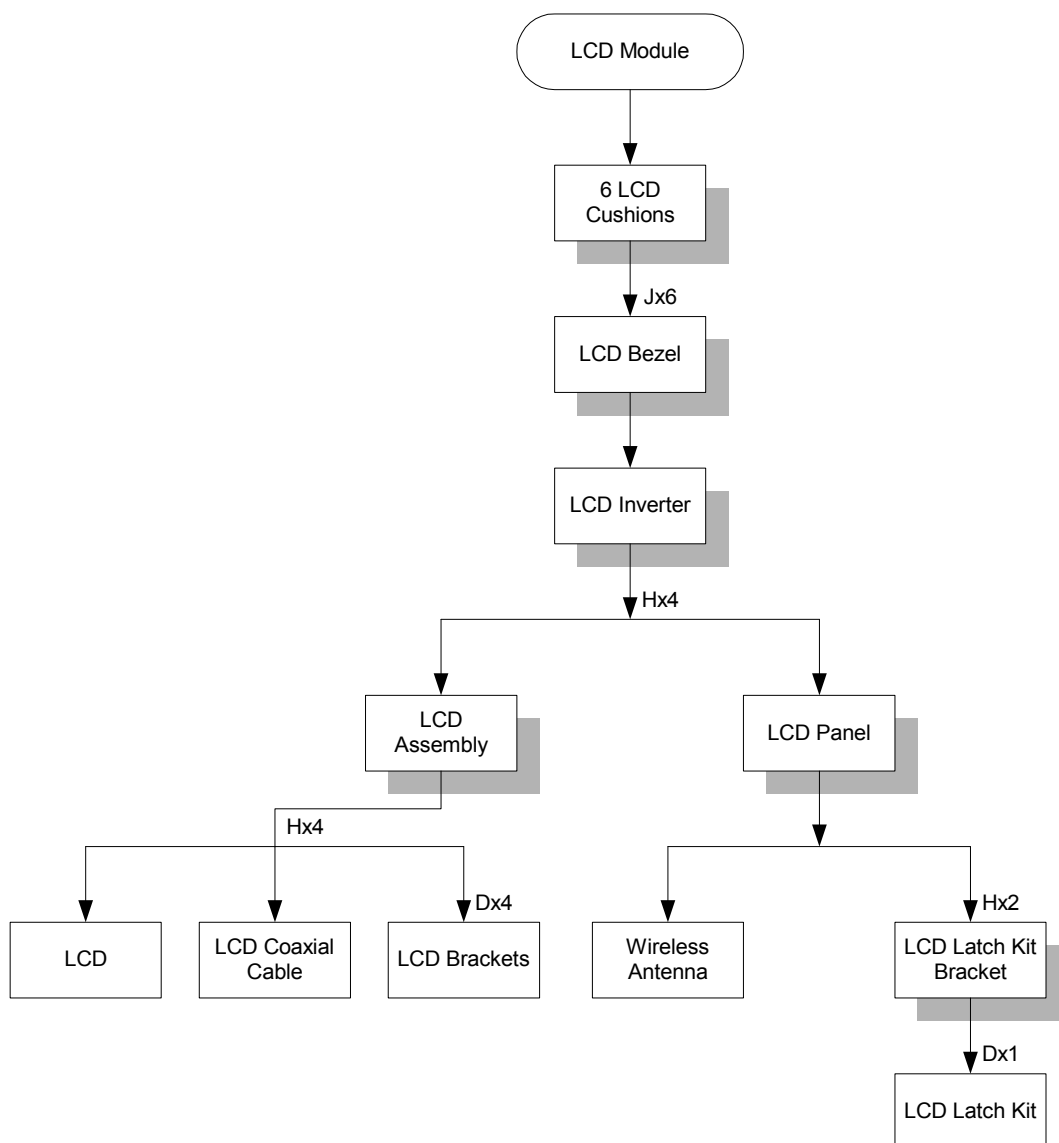
1. Turn off the power to the system and all peripherals.
2. Unplug the AC adapter and all power and signal cables from the system.
3. Remove the battery pack.

NOTE: Ferrari 3200 series product uses mylar or tape to fasten the FFC/FPC/connectors/cable, you may need to tear the tape or mylar before you disconnect different FFC/FPC/connectors.

Disassembly Procedure Flowchart

The flowchart on the succeeding page gives you a graphic representation on the entire disassembly sequence and instructs you on the components that need to be removed during servicing. For example, if you want to remove the system board, you must first remove the keyboard, then disassemble the inside assembly frame in that order.





Screw List

| Item | Description |
|------|---------------------------|
| A | NUT-I/O |
| B | SCREW M1.6X4.0-I-NI-NYLOK |
| C | SCREW M2.0X2.5-I-NI-NYLOK |
| D | SCREW M2.0X3.0-I-NI-NYLOK |
| E | SCREW M2.0X3.5-I-NI-NYLOK |
| F | SCREW M2.0X5-I-NI-NYLOK |
| G | SCREW M2.5X3-I-NI-NYLOK |
| H | SCREW M2.5X4.0-B-NI-NYLOK |
| I | SCREW M2.5X4-I-NYLOK |
| J | SCREW M2.5X5.0-I-NI-NYLOK |
| K | SCREW M2.5X5.5-P-NI-NYLOK |

| Item | Description |
|------|----------------------------|
| L | SCREW M2.5X0.45+7I-NYLOK |
| M | SCREW M1.7X3.5-I-BZN |
| N | SCREW M2X3-I-BNI-NYLOK |
| O | SCREW M2.0X5.0-I-BNI-NYLOK |
| P | SCREW M2.0X6.0-I-NI-NYLOK |
| Q | SCREW M2.5X2-I-NI-NYLOK |
| R | SCREW M2.5X4-I-BNI |
| S | SCREW M2.5X7 |
| T | SCREW M3.0X3.5 |
| U | SCREW M2.5X5 (BLACK) |

Removing the Battery Pack

1. Release the battery lock.
2. Slide the battery latch then remove the battery.



Removing the Optical Module/HDD Module/Wireless Lan Card and LCD module

Removing the Optical Module

1. Slide the optical disk drive latch.
2. Remove the ODD module.



Removing the HDD Module

1. Remove the two screws holding the HDD cover.
2. Remove the HDD cover.
3. Remove the HDD module.



Removing the Wireless LAN Card

1. Remove the screw that secures the PCI door then remove the PCI door.
2. Disconnect the right and the left wireless antenna.
3. Pop out the wireless LAN card then remove it.

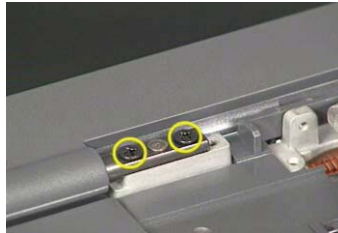


Removing the LCD Module

1. Remove the four screws that secures the middle cover; two one each side.
2. Detach middle cover with the assistance of a plastic flat head screw driver.
3. Disconnect the LCD cable then take out the cable from the upper case.



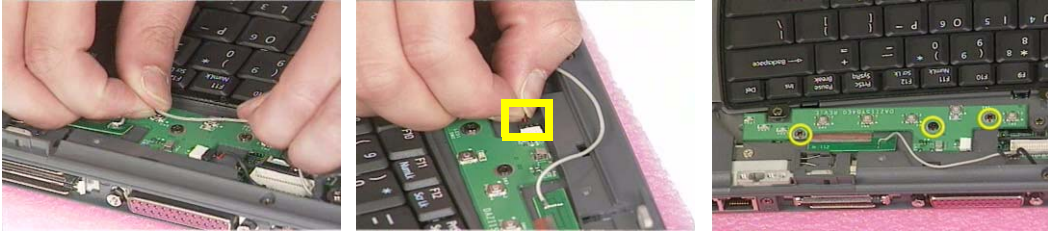
4. Disconnect the left wireless LAN antenna line. Then take out the antenna from the upper case with a tweezers.
5. Unscrew the four screws holding the LCD hinges; two on each side.
6. Then remove the entire LCD module.



Disassembling the Main Unit

Remove the function key board and the keyboard

1. Take the wireless antenna out of the hook on the function key board.
2. Disconnect function key board connector
3. Unscrew the three screws holding the function key board.



4. Remove the three screws that secure the keyboard.
5. Turn over the unit and remove the two screws as the picture shows.
6. Turn over the keyboard. Disconnect the keyboard FFC then remove the keyboard.



Separate the main unit into the logic upper and the logic lower assembly

1. Remove the three screws on the rear panel.
2. Unscrew the 19 screws on the bottom panel.
3. Detach the front bezel from the main unit.

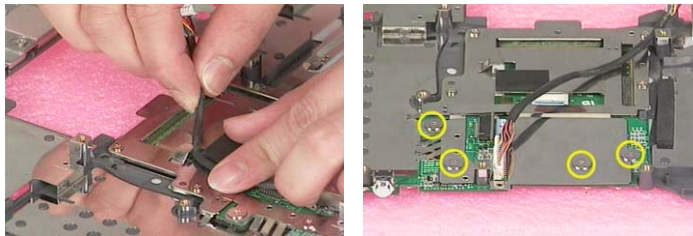


4. Remove the two screws. Then take the right and the left antenna off the main unit.
5. Disconnect the touchpad cable.
6. Pull out the right and the left wireless LAN antenna, then detach the logic upper assembly from the logic lower assembly.



Disassembling the logic upper assembly

1. Take out the touchpad cable from the small hook on touchpad holder.
2. Remove the four screws holding the touchpad shielding and the touchpad board.



3. Disconnect the touchpad FFC from the touchpad board.
4. Remove the touchpad board.
5. Remove the wireless and bluetooth button off the touchpad board.

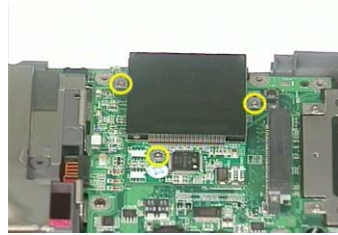
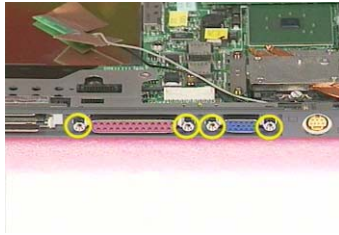


6. Remove the four screws that fasten the touchpad holder.
7. Remove the touchpad off the logic upper assembly.
8. Disconnect touchpad FFC.

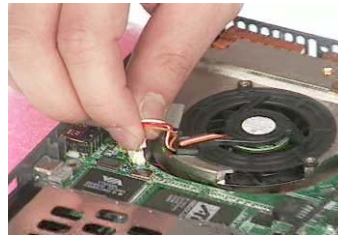


Disassembling the logic lower assembly

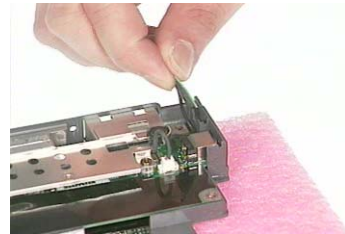
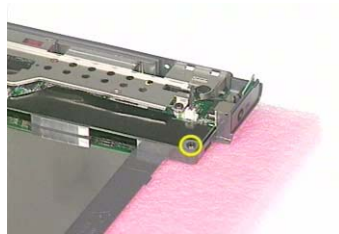
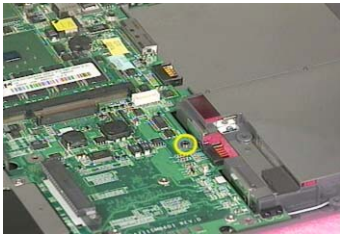
1. In order to take out the main board from the upper case, first remove the four screws that fasten the top cover shielding.
2. Remove the three screws holding the 4-in-1 card reader, then remove it.



3. Unscrew the four screws that secure the thermal module.
4. Disconnect the fan connector then remove the thermal module.



5. Remove one screw that secures the main board as picture shows.
6. Remove another screw that fastens the main board.
7. Take out the bluetooth antenna.

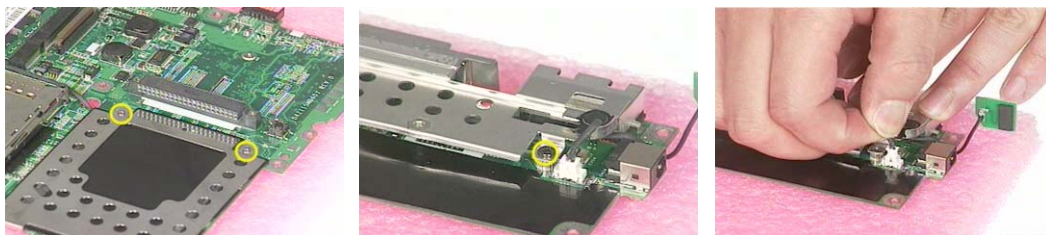


8. Disconnect the speaker set cable.
9. To remove the main board from the lower case assembly, first press the PCMCIA card button.
10. Then take the main board off the lower case assembly.



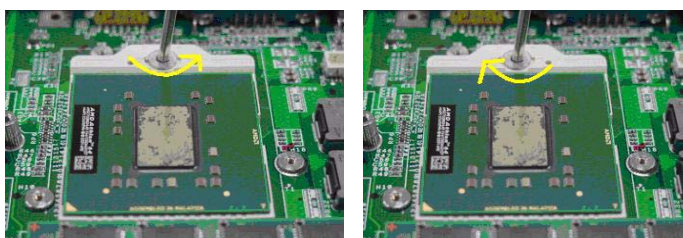
11. Unscrew the two screws that fasten the HDD bracket.
12. Remove one screw holding the top cover shielding.

- 13.** Disconnect the microphone cable. Then remove the top cover shielding.



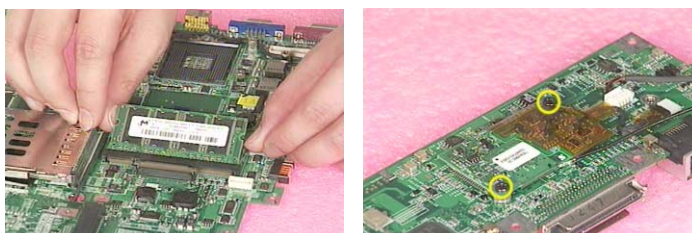
- 14.** Use a hex wrench (2.5mm) to turn the CPU lock counter clock-wise. Then remove the CPU.

- 15.** Put the CPU back to the socket then use a hex wrench (2.5mm) to fasten the CPU lock as shown.



- 16.** Pop out the memory then remove it.

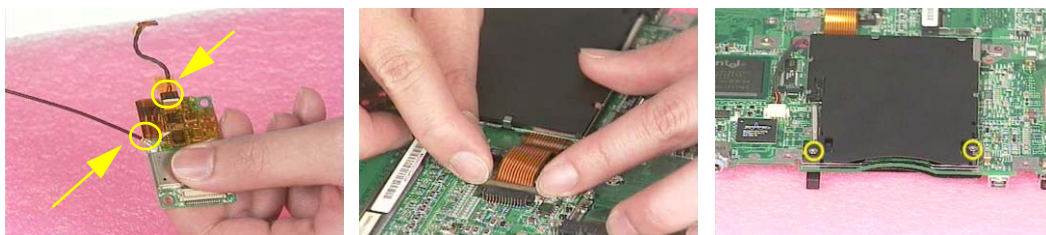
- 17.** Unscrew the two screws that secure the modem/bluetooth combo card. Remove the modem/bluetooth combo card then disconnect the connector.



- 18.** Disconnect the bluetooth antenna and the modem cable.

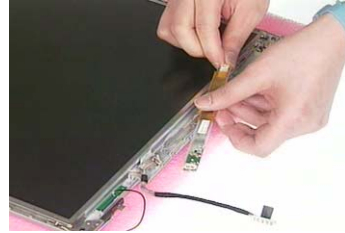
- 19.** Disconnect the smart card reader FPC.

- 20.** Unscrew the two screws holding the smart card reader then remove it.

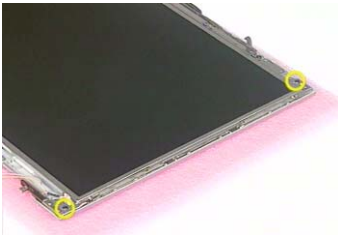


Disassembling the LCD Module

1. Remove the six screw pad and the six screws.
2. Detach the LCD bezel carefully.
3. Disconnect LCD inverter.



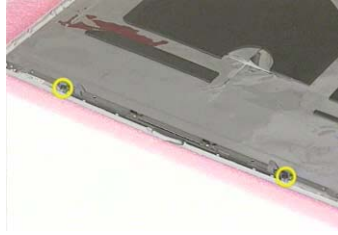
4. Remove the two screws holding the LCD to LCD panel.
5. Then remove the LCD.
6. Remove the four screws that fasten the right and the left LCD brackets. Then remove the right and the left LCD brackets.



7. Tear off the electric conductive tape that fastens the LCD coaxial cable.
8. Tear off another electric conductive tape that fastens the LCD coaxial cable.
9. Disconnect the LCD coaxial cable.



10. Detach the wireless antenna from the LCD panel.
11. Remove the two screws holding the LCD latch kit.
12. Remove the LCD latch kit bracket.



- 13.** Unhook the spring.
- 14.** Remove the screw that fastens the LCD latch kit.
- 15.** Then remove the LCD latch kit.



Disassembling the External Modules

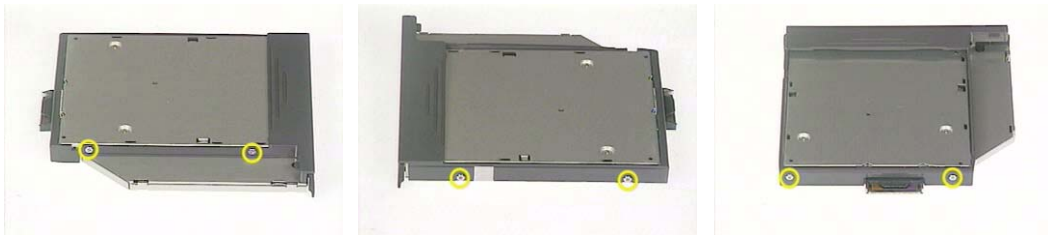
Disassembling the HDD Module

1. Remove the four screws holding the HDD bracket; two on each side.
2. Take out the HDD from the HDD bracket.

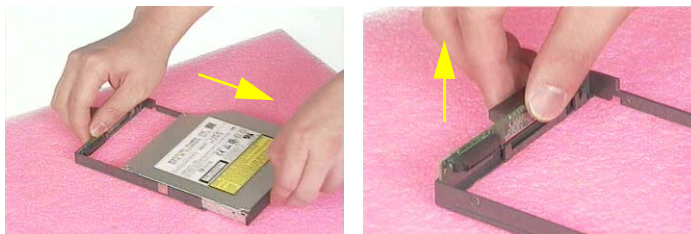


Disassembling the Optical Drive Module

1. Remove the two screws holding the ODD bracket.
2. Remove another screw as the picture shows.
3. Then remove the last two screws on the back side of the ODD module.



4. Slide the ODD from the ODD bracket.
5. Then remove the optical bracket.



6. In order to open the ODD, use an uncurved pin to press the emergency eject hole.
7. Remove the three screws that fasten the ODD door.
8. Then detach the ODD door.



Troubleshooting

Use the following procedure as a guide for computer problems.

NOTE: The diagnostic tests are intended to test this model. Non-Acer products, prototype cards, or modified options can give false errors and invalid system responses.

1. Duplicate symptom and obtain the failing symptoms in as much detail as possible.
2. Distinguish symptom. Verify the symptoms by attempting to re-create the failure by running the diagnostic test or by repeating the same operation.
3. Disassemble and assemble the unit without any power sources.
4. If any problem occurs, you can perform visual inspection before you follow this chapter's instructions. You can check the following:
 - power cords are properly connected and secured;
 - there are no obvious shorts or opens;
 - there are no obviously burned or heated components;
 - all components appear normal.
5. Use the following table with the verified symptom to determine which page to go to.

| Symptoms (Verified) | Go To |
|---|---|
| Power failure. (The power indicator does not go on or stay on.) | "Power System Check" on page 63. |
| POST does not complete. No beep or error codes are indicated. | "Power-On Self-Test (POST) Error Message" on page 65 "Undetermined Problems" on page 77 |
| POST detects an error and displayed messages on screen. | "Error Message List" on page 66 |
| Other symptoms (i.e. LCD display problems or others). | "Power-On Self-Test (POST) Error Message" on page 65 |
| Symptoms cannot be re-created (intermittent problems). | Use the customer-reported symptoms and go to "Power-On Self-Test (POST) Error Message" on page 65 "Intermittent Problems" on page 76 "Undetermined Problems" on page 77 |

System Check Procedures

External Diskette Drive Check

Do the following to isolate the problem to a controller, driver, or diskette. A write-enabled, diagnostic diskette is required.

NOTE: Make sure that the diskette does not have more than one label attached to it. Multiple labels can cause damage to the drive or cause the drive to fail.

Do the following to select the test device.

1. Boot from the diagnostics diskette and start the diagnostics program.
2. See if FDD Test is passed as the program runs to FDD Test.
3. Follow the instructions in the message window.

If an error occurs with the internal diskette drive, reconnect the diskette connector on the system board.

If the error still remains:

1. Reconnect the external diskette drive/DVD-ROM module.
2. Replace the external diskette drive/CD-ROM module.
3. Replace the main board.

External CD-ROM Drive Check

Do the following to isolate the problem to a controller, drive, or CD-ROM. Make sure that the CD-ROM does not have any label attached to it. The label can cause damage to the drive or can cause the drive to fail.

Do the following to select the test device:

1. Boot from the diagnostics diskette and start the diagnostics program.
2. See if CD-ROM Test is passed when the program runs to CD-ROM Test.
3. Follow the instructions in the message window.

If an error occurs, reconnect the connector on the System board. If the error still remains:

1. Reconnect the external diskette drive/CD-ROM module.
2. Replace the external diskette drive/CD-ROM module.
3. Replace the main board.

Keyboard or Auxiliary Input Device Check

Remove the external keyboard if the internal keyboard is to be tested.

If the internal keyboard does not work or an unexpected character appears, make sure that the flexible cable extending from the keyboard is correctly seated in the connector on the system board.

If the keyboard cable connection is correct, run the Keyboard Test.

If the tests detect a keyboard problem, do the following one at a time to correct the problem. Do not replace a non-defective FRU:

1. Reconnect the keyboard cables.
2. Replace the keyboard.
3. Replace the main board.

The following auxiliary input devices are supported by this computer:

- ☐ Numeric keypad
- ☐ External keyboard

If any of these devices do not work, reconnect the cable connector and repeat the failing operation.

Memory check

Memory errors might stop system operations, show error messages on the screen, or hang the system.

1. Boot from the diagnostics diskette and start the doagmpstotics program (please refer to main board).
2. Go to the diagnostic memory in the test items.
3. Press F2 in the test items.
4. Follow the instructions in the message window.

NOTE: Make sure that the DIMM is fully installed into the connector. A loose connection can cause an error.

Power System Check

To verify the symptom of the problem, power on the computer using each of the following power sources:

1. Remove the battery pack.
2. Connect the power adapter and check that power is supplied.
3. Disconnect the power adapter and install the charged battery pack; then check that power is supplied by the battery pack.

If you suspect a power problem, see the appropriate power supply check in the following list:

- ☐ "Check the Battery Pack" on page 64

Check the Battery Pack

To check the battery pack, do the following:

From Software:

1. Check out the Power Management in control Panel
2. In Power Meter, confirm that if the parameters shown in the screen for Current Power Source and Total Battery Power Remaining are correct.
3. Repeat the steps 1 and 2, for both battery and adapter.
4. This helps you identify first the problem is on recharging or discharging.

From Hardware:

1. Power off the computer.
2. Remove the battery pack and measure the voltage between battery terminals 1(+) and 6(ground). See the following figure
3. If the voltage is still less than 7.5 Vdc after recharging, replace the battery.

To check the battery charge operation, use a discharged battery pack or a battery pack that has less than 50% of the total power remaining when installed in the computer.

If the battery status indicator does not light up, remove the battery pack and let it return to room temperature. Re-install the battery pack.

If the charge indicator still does not light up, replace the battery pack. If the charge indicator still does not light up, replace the DC/DC charger board.

Touchpad check

If the touchpad doesn't work, do the following actions one at a time to correct the problem. Do not replace a non-defective FRU:

1. After rebooting, run Tracking Pad PS2 Mode Driver. For example, run Syn touch driver.
2. Run utility with the PS/2 mouse function and check if the mouse is working.
3. If the the PS/2 mouse does not work, then check if the main board to switch board FPC is connected O.K.
4. If the main board to switch board FPC is connected well, then check if the FCC on touch pad PCB connects properly.
5. If the FFC on touch pad PCB connects properly, then check if LS851 JP1 Pin6=5V are pulse. If yes, then replace switch board. If no, then go to next step.
6. Replace touch pad PCB.
7. If the touch pad still does not work, then replace FPC on Track Pad PCB.

After you use the touchpad, the pointer drifts on the screen for a short time. This self-acting pointer movement can occur when a slight, steady pressure is applied to the touchpad pointer. This symptom is not a hardware problem. No service actions are necessary if the pointer movement stops in a short period of time.

Power-On Self-Test (POST) Error Message

The POST error message index lists the error message and their possible causes. The most likely cause is listed first.

NOTE: Perform the FRU replacement or actions in the sequence shown in FRU/Action column, if the FRU replacement does not solve the problem, put the original part back in the computer. Do not replace a non-defective FRU.

This index can also help you determine the next possible FRU to be replaced when servicing a computer.

If the symptom is not listed, see “Undetermined Problems” on page 77.

The following lists the error messages that the BIOS displays on the screen and the error symptoms classified by function.

NOTE: Most of the error messages occur during POST. Some of them display information about a hardware device, e.g., the amount of memory installed. Others may indicate a problem with a device, such as the way it has been configured.

NOTE: If the system fails after you make changes in the BIOS Setup Utility menus, reset the computer, enter Setup and install Setup defaults or correct the error.

Index of Error Messages

Error Message List

| Error Messages | FRU/Action in Sequence |
|---|---|
| Struck Key | See “Keyboard or Auxiliary Input Device Check” on page 62 |
| System CMOS checksum bad - Default configuration used | RTC battery Run BIOS Setup Utility to reconfigure system, then reboot system. |
| Real time clock error | RTC battery Run BIOS Setup Utility to reconfigure system time, then reboot system. Main board |
| Previous boot incomplete - Default configuration used | “Load Default Settings” in BIOS Setup Utility. RTC batter Main board. |
| Invalid System Configuration Data | “Load Default Settings” in BIOS Setup Utility. Main board. |
| Operating system not found | Enter Setup and see if fixed disk and drive A are properly identified. Dikette drive Hard disk drive Main board. |

Error Message List

| No beep Error Messages | FRU/Action in Sequence |
|---|--|
| Power-on indicator turns off and LCD is blank. | Power source (battery pack and power adapter.) See "Power System Check" on page 63 Ensure every connector is connected tightly and correctly. Reconnect the DIMM. Main board. |
| Power-on indicator turns on and LCD is blank. | Power source (battery pack and power adapter.) See "Power System Check" on page 63 Reconnect the LCD connector Hard disk drive LCD cable LCD inverter LCD Main board |
| Power-on indicator turns on and LCD is blank. But you can see POST on an external CRT. | Reconnect the LCD connectors. LCD cable LCD inverter LCD Main board |
| Power-on indicator turns on and a blinking cursor shown on LCD during POST. | Ensure every connector is connected tightly and correctly. Main board |

POST Codes

| Code | Beeps | POST Routine Description |
|------|---------|--|
| 02h | | Verify Real Mode |
| 03h | | Disable Non-Maskable Interrupt (NMI) |
| 04h | | Get CPU type |
| 06h | | Initialize system hardware |
| 08h | | Initialize chipset with initial POST values |
| 09h | | Set IN POST flag |
| 0Ah | | Initialize CPU registers |
| 0Bh | | Enable CPU cache |
| 0Ch | | Initialize caches to initial POST values |
| 0Eh | | Initialize I/O component |
| 0Fh | | Initialize the local bus IDE |
| 10h | | Initialize Power Management |
| 11h | | Load alternate registers with initial POST values |
| 12h | | Restore CPU control word during warm boot |
| 13h | | Initialize PCI Bus Mastering devices |
| 14h | | Initialize keyboard controller |
| 16h | 1-2-2-3 | BIOS ROM checksum |
| 17h | | Initialize cache before memory autosize |
| 18h | | 8254 timer initialization |
| 1Ah | | 8237 DMA controller initialization |
| 1Ch | | Reset Programmable Interrupt Controller |
| 20h | 1-3-1-1 | Test DRAM refresh |
| 22h | 1-3-1-3 | Test 8742 Keyboard Controller |
| 24h | | Set ES segment register to 4 GB |
| 26h | | Enable A20 line |
| 28h | | Autosize DRAM |
| 29h | | Initialize POST Memory Manager |
| 2Ah | | Clear 215 KB base RAM |
| 2Ch | 1-3-4-1 | RAM failure on address line xxxx |
| 2Eh | 1-3-4-3 | RAM failure on data bits xxxx of low byte of memory bus |
| 2Fh | | Enable cache before system BIOS shadow |
| 30h | 1-4-1-1 | RAM failure on data bits xxxx of high byte of memory bus |
| 32h | | Test CPU bus-clock frequency |
| 33h | | Initialize Phoenix Dispatch Manager |
| 36h | | Warm start shut down |
| 38h | | Shadow system BIOS ROM |
| 3Ah | | Autosize cache |
| 3Ch | | Advanced configuration of chipset registers |
| 3Dh | | Load alternate registers with CMOS values |
| 42h | | Initialize interrupt vectors |
| 45h | | POST device initialization |
| 46h | 2-1-2-3 | Check ROM copyright notice |

| Code | Beeps | POST Routine Description |
|------|---------|---|
| 48h | | Check video configuration against CMOS |
| 49h | | Initialize PCI bus and devices |
| 4Ah | | Initialize all video adapters in system |
| 4Bh | | QuietBoot start (optional) |
| 4Ch | | Shadow video BIOS ROM |
| 4Eh | | Display BIOS copyright notice |
| 50h | | Display CPU type and speed |
| 51h | | Initialize EISA board |
| 52h | | Test keyboard |
| 54h | | Set key click if enabled |
| 58h | 2-2-3-1 | Test for unexpected interrupts |
| 59h | | Initialize POST display service |
| 5Ah | | Display prompt "Press F2 to enter SETUP" |
| 5Bh | | Disable CPU cache |
| 5Ch | | Test RAM between 512 and 640 KB |
| 60h | | Test extended memory |
| 62h | | Test extended memory address lines |
| 64h | | Jump to User Patch1 |
| 66h | | Configure advanced cache registers |
| 67h | | Initialize Multi Processor APIC |
| 68h | | Enable external and CPU caches |
| 69h | | Setup System Management Mode (SMM) area |
| 6Ah | | Display external L2 cache size |
| 6Bh | | Load custom defaults (optional) |
| 6Ch | | Display shadow-area message |
| 6Eh | | Display possible high address for UMB recovery |
| 70h | | Display error messages |
| 72h | | Check for configuration errors |
| 76h | | Check for keyboard errors |
| 7Ch | | Set up hardware interrupt vectors |
| 7Eh | | Initialize coprocessor if present |
| 80h | | Disable onboard Super I/O ports and IRQs |
| 81h | | Late POST device initialization |
| 82h | | Detect and install external RS232 ports |
| 83h | | Configure non-MCD IDE controllers |
| 84h | | Detect and install external parallel ports |
| 85h | | Initialize PC-compatible PnP ISA devices |
| 86h | | Re-initialize onboard I/O ports |
| 87h | | Configure Motherboard Configurable Devices (optional) |
| 88h | | Initialize BIOS Area |
| 89h | | Enable Non-Maskable Interrupts (NMIs) |
| 8Ah | | Initialize Extended BIOS Data Area |
| 8Bh | | Test and initialize PS/2 mouse |
| 8Ch | | Initialize floppy controller |

| Code | Beeps | POST Routine Description |
|------|-------|--|
| 8Fh | | Determine number of ATA drives (optional) |
| 90h | | Initialize hard-disk controllers |
| 91h | | Initialize local-bus hard-disk controllers |
| 92h | | Jump to UserPatch2 |
| 93h | | Build MPTABLE for multi-processor boards |
| 95h | | Install CD ROM for boot |
| 96h | | Clear huge ES segment register |
| 97h | | Fixup Multi Processor table |
| 98h | 1-2 | Search for option ROMs. One long, two short beeps on checksum failure. |
| 99h | | Check for SMART drive (optional) |
| 9Ah | | Shadow option ROMs |
| 9Ch | | Set up Power Management |
| 9Dh | | Initialize security engine (optional) |
| 9Eh | | Enable hardware interrupts |
| 9Fh | | Determine number of ATA and SCSI drives |
| A0h | | Set time of day |
| A2h | | Check key lock |
| A4h | | Initialize Typematic rate |
| A8h | | Erase F2 prompt |
| AAh | | Scan for F2 key stroke |
| ACh | | Enter SETUP |
| A Eh | | Clear Boot flag |
| B0h | | Check for errors |
| B2h | | POST done- prepare to boot operating system |
| B4h | 1 | One short beep before boot |
| B5h | | Terminate QuietBoot (optional) |
| B6h | | Check password (optional) |
| B9h | | Prepare Boot |
| BAh | | Initialize DMI parameters |
| BBh | | Initialize PnP Option ROMs |
| BCh | | Clear parity checkers |
| BDh | | Display MultiBoot menu |
| BEh | | Clear screen (optional) |
| BFh | | Check virus and backup reminders |
| C0h | | Try to boot with INT 19 |
| C1h | | Initialize POST Error Manager (PEM) |
| C2h | | Initialize error logging |
| C3h | | Initialize error display function |
| C4h | | Initialize system error handler |
| C5h | | PnPnd dual CMOS (optional) |
| C6h | | Initialize notebook docking (optional) |
| C7h | | Initialize notebook docking late |
| C8h | | Force check (optional) |
| C9h | | Extended checksum (optional) |
| D2h | | Unknown interrupt |

| Code | Beeps | For Boot Block in Flash ROM |
|------|-------|-----------------------------------|
| E0h | | Initialize the chipset |
| E1h | | Initialize the bridge |
| E2h | | Initialize the CPU |
| E3h | | Initialize the system timer |
| E4h | | Initialize system I/O |
| E5h | | Check force recovery boot |
| E6h | | Checksum BIOS ROM |
| E7h | | Go to BIOS |
| E8h | | Set Huge Segment |
| E9h | | Initialize Multi Processor |
| EAh | | Initialize OEM special code |
| EBh | | Initialize PIC and DMA |
| ECh | | Initialize Memory type |
| EDh | | Initialize Memory size |
| EEh | | Shadow Boot Block |
| EFh | | System memory test |
| F0h | | Initialize interrupt vectors |
| F1h | | Initialize Run Time Clock |
| F2h | | Initialize video |
| F3h | | Initialize System Management Mode |
| F4h | 1 | Output one beep before boot |
| F5h | | Boot to Mini DOS |
| F6h | | Clear Huge Segment |
| F7h | | Boot to Full DOS |

Index of Symptom-to-FRU Error Message

LCD-Related Symptoms

| Symptom / Error | Action in Sequence |
|--|--|
| LCD backlight doesn't work | First, plug a monitor to CRT port. Next, enter BIOS utility to running "Load Default Settings" then reboot the system. Reconnect the LCD connectors. Keyboard (if the brightness function key doesn't work). LCD cable LCD inverter LCD Main board |
| LCD is too dark LCD brightness cannot be adjusted | Enter BIOS Utility to execute "Load Setup Default Settings", then reboot system. Reconnect the LCD connectors. Keyboard (if the brightness function key doesn't work). LCD cable LCD inverter LCD Main board |
| Unreadable LCD screen Missing pels in characters Abnormal screen Wrong color displayed LCD has extra horizontal or vertical lines displayed. | Reconnect the LCD cable LCD cable LCD Main board |

Indicator-Related Symptoms

| Symptom / Error | Action in Sequence |
|--|---|
| Indicator incorrectly remains off or on, but system runs correctly | Main board |
| HDD/CD-ROM active indicators cannot work | HDD/CD-ROM drive Device driver Main board |

Power-Related Symptoms

| Symptom / Error | Action in Sequence |
|-----------------------------------|--|
| Power shuts down during operation | Power source (battery pack and power adapter). See "Power System Check" on page 63. Battery pack AC adapter See if the thermal module is overheat (Heat sink or fan). Main board |
| The system cannot power-on. | Power source (battery pack and power adapter). See "Power System Check" on page 63. Battery pack Power adapter CPU Main board |
| The system cannot power-off. | In Windows XP operating system, hold and press the power switch for more than 4 seconds. If the system can power off, then the main board is OK. Verify OS in the HDD. Main board |

Power-Related Symptoms

| Symptom / Error | Action in Sequence |
|--|--|
| Battery can't be charged or discharged | See "Check the Battery Pack" on page 64. Battery pack Main board |
| System hang during POST | ODD/HDD/FDD/RAM module Main board |

PCMCIA-Related Symptoms

| Symptom / Error | Action in Sequence |
|---|---|
| System cannot detect the PC Card (PCMCIA) | PCMCIA slot assembly Main board |
| PCMCIA slot pin is damaged. | PCMCIA slot assembly |
| PC Card cannot be inserted or ejected | Check if the PCMCIA slot is blocked Main board |

Memory-Related Symptoms

| Symptom / Error | Action in Sequence |
|--|--|
| Memory count (size) appears different from actual size. | Enter BIOS Setup Utility to execute "Load Default Settings" then reboot system. RAM module Main board Check BIOS revision |
| System can power on, but you hear two long beeps: "B--, B--" and the LCD is blank. | Reinsert DIMM DIMM Main board |

Speaker-Related Symptoms

| Symptom / Error | Action in Sequence |
|--|--|
| In Windows, multimedia programs, no sound comes from the computer. | OS volume control Audio driver Speaker Main board |
| Internal speakers make noise or emit no sound. | Speaker Main board |
| Microphone cannot work | Audio driver Volume control in Windows XP Main board |

Power Management-Related Symptoms

| Symptom / Error | Action in Sequence |
|---|---|
| The system will not enter hibernation mode | Power option in Windows XP Hard disk drive Main board |
| The system doesn't enter standby mode after closing the lid of the portable computer. | Driver of Power Option Properties Lid close switch in upper case Main board |

Power Management-Related Symptoms

| Symptom / Error | Action in Sequence |
|---|---|
| The system doesn't resume from hibernation/standby mode. | Connect AC adapter then check if the system resumes from Standby/Hibernation mode. Check if the battery is low. Hard disk drive Main board |
| The system doesn't resume from standby mode after opening the lid of the portable computer. | LCD cover switch Main board |
| Battery fuel gauge in Windows doesn't go higher than 90%. | Refresh battery (continue use battery until power off, then charge battery). Battery pack Main board |
| System hangs intermittently. | Reconnect hard disk/CD-ROM drives. Main board |

Peripheral-Related Symptoms

| Symptom / Error | Action in Sequence |
|--|---|
| System configuration does not match the installed devices. | Enter BIOS Setup Utility to execute "Load Setup defaults", then reboot system. Reconnect hard disk/CD-ROM drives/FDD or other peripherals. Main board |
| External display does not work correctly. | Press Fn+F5, LCD/CRT/Both display switching Keyboard Main board |
| USB does not work correctly | Main board |
| Print problems. | Enter BIOS Setup Utility to execute "Load Default Settings" then reboot the system. Run printer self-test. Printer driver Printer cable Printer Main board |
| Parallel port device problems | Enter BIOS Setup Utility to execute "Load Default Settings" then reboot the system. Device driver Device cable Device Main board |

Keyboard/Touchpad-Related Symptoms

| Symptom / Error | Action in Sequence |
|--|---|
| Keyboard (one or more keys) does not work. | Reconnect the keyboard cable. Keyboard Main board |
| Touchpad does not work. | Reconnect touchpad cable. Touchpad board Main board |

Modem/LAN-Related Symptoms

| Symptom / Error | Action in Sequence |
|---|--|
| Internal modem does not work correctly. | Phone cable Driver Reconnect the Internal modem cable to the main board tightly. Main board |
| Internal LAN does not work correctly | Lan cable Driver Main board |

NOTE: If you cannot find a symptom or an error in this list and the problem remains, see “Undetermined Problems” on page 77.

Intermittent Problems

Intermittent system hang problems can be caused by a variety of reasons that have nothing to do with a hardware defect, such as: cosmic radiation, electrostatic discharge, or software errors. FRU replacement should be considered only when a recurring problem exists.

When analyzing an intermittent problem, do the following:

1. Run the diagnostic test for the system board in loop mode at least 10 times.
2. If no error is detected, do not replace any FRU.
3. If any error is detected, replace the FRU. Rerun the test to verify that there are no more errors.

Undetermined Problems

The diagnostic problems does not identify which adapter or device failed, which installed devices are incorrect, whether a short circuit is suspected, or whether the system is inoperative.

Follow these procedures to isolate the failing FRU (do not isolate non-defective FRU).

NOTE: Verify that all attached devices are supported by the computer.

NOTE: Verify that the power supply being used at the time of the failure is operating correctly. (See “Power System Check” on page 63):

1. Power-off the computer.
2. Visually check them for damage. If any problems are found, replace the FRU.
3. Remove or disconnect all of the following devices:
 - ☐ Non-Acer devices
 - ☐ Printer, mouse, and other external devices
 - ☐ Battery pack
 - ☐ Hard disk drive
 - ☐ DIMM
 - ☐ PC Cards
4. Power-on the computer.
5. Determine if the problem has changed.
6. If the problem does not recur, reconnect the removed devices one at a time until you find the failing FRU.
7. If the problem remains, replace the following FRU one at a time. Do not replace a non-defective FRU:
 - ☐ System board
 - ☐ LCD assembly

How to Build NAPP Master Hard Disc Drive

CD to Disk Recovery

1. Prepare NAPP CD, Recovery CD and System CD.
2. Put NAPP CD into the optical drive. Then boot up the system.
3. The system will ask you if you want to build NAPP Master HDD. Please press any key to continue.

```
=====
                        The HDD Must bigger then 20GB.
=====

Do you want to build NAPP Master HDD?
press any key to continue or Ctrl-C to exit
_
```

4. NAPP CD will start to preload the system, please click [Y].

```
Acer NAPP Preload Selector for Acer System Version 1.4.0.1
Copyright 2003 Acer Inc.

=====

This will preload your system. Are you sure?[Y,N]?
```

5. Select CD to Disk Recovery.

```
Method Selector
=====
1. Disk To Disk Recovery
2. CD to Disk Recovery
X. Quit

Please select your Choose...[1,2,x]?
```

6. Put the Recovery CD to the optical drive. This step is to create image files to the system, you do not have to put the Recovery CD to the optical drive in order. Place one Recovery CD to the drive at one time till you finish all Recovery CDs.

```
Please Insert Any Recovery CD

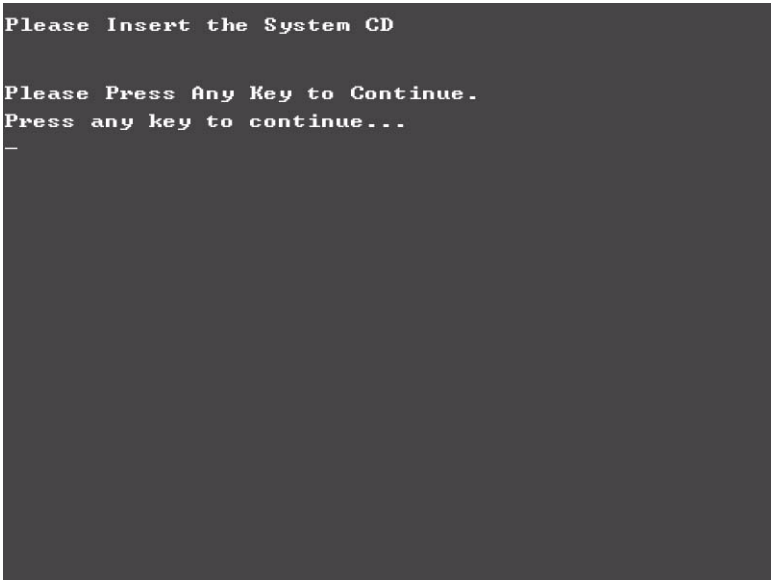
Please Press Any Key to Continue.
Press any key to continue...
—
```

After you place the Recovery CD to the optical drive, you will see the display below.



```
Please Wait for COPYING .....  
X:\images \70E40I01.HDD
```

7. Then insert the System CD to the optical drive.



```
Please Insert the System CD  
  
Please Press Any Key to Continue.  
Press any key to continue...  
_
```

8. You will see the screen displaying “PASS” when the system has built NAPP Master hard disc drive.

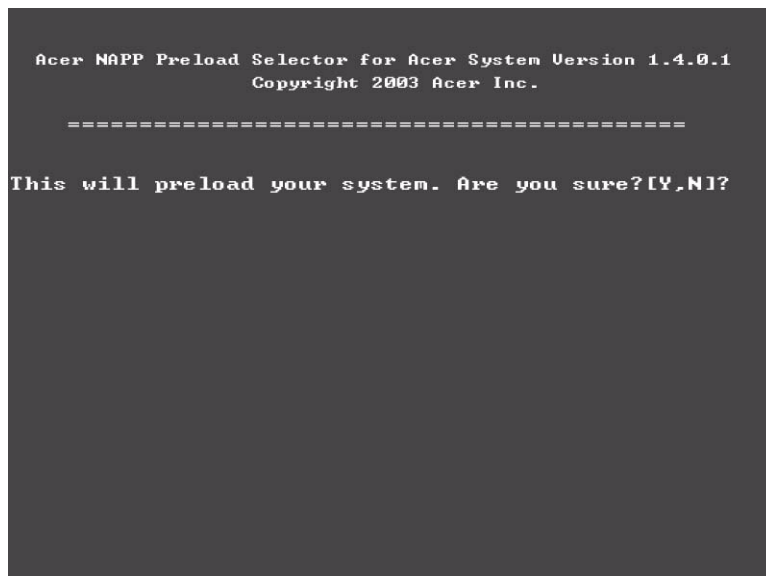


Disk to Disk Recovery

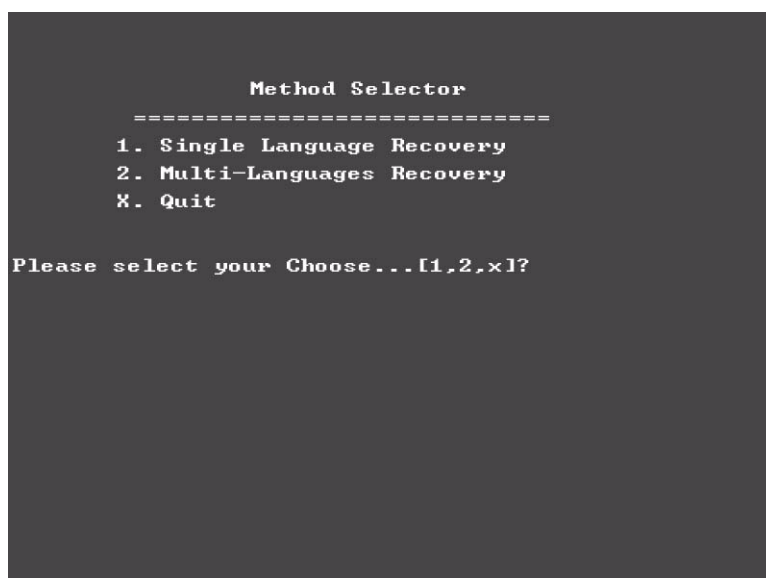
1. Prepare NAPP CD, Recovery CD and System CD.
2. Put NAPP CD into the optical drive. Then boot up the system.
3. The system will ask you if you want to build NAPP Master HDD. Please press any key to continue.



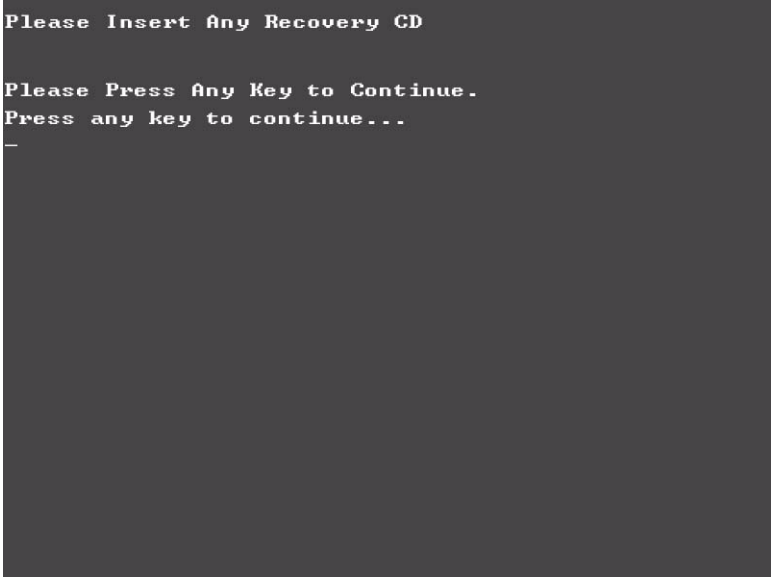
4. NAPP CD will start to preload the system, please click [Y].



5. Select Disk to Disk Recovery. Then choose Single Language or Multi-Languages Recovery.
NOTE: For Multi-Languages Recovery, not more than five languages could be loaded to the system.



6. Put the Recovery CD to the optical drive. This step is to create image files to the system, you do not have to put the Recovery CD to the optical drive in order. Place one Recovery CD to the drive at one time till you finish all Recovery CDs.



```
Please Insert Any Recovery CD

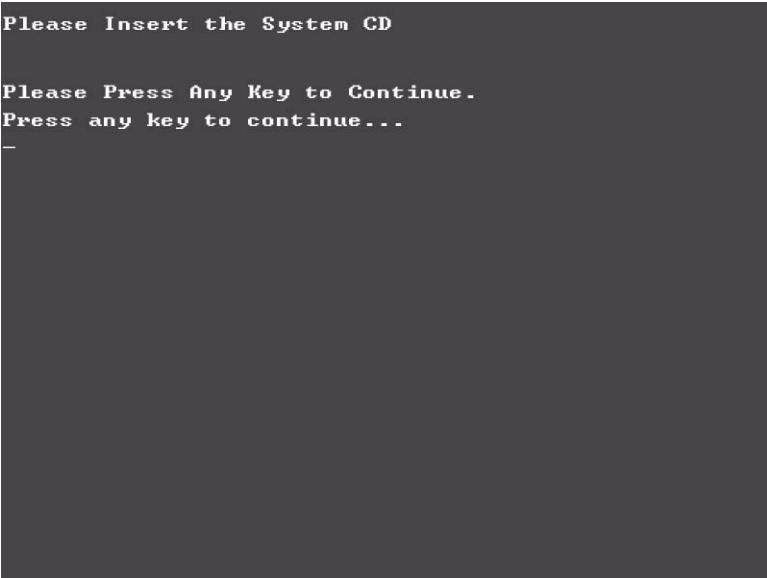
Please Press Any Key to Continue.
Press any key to continue...
_
```

After you place the Recovery CD to the optical drive, you will see the display below.



```
Please Wait for COPYING .....
X:\images \70E40101.HDD
```

7. Then insert the System CD to the optical drive.

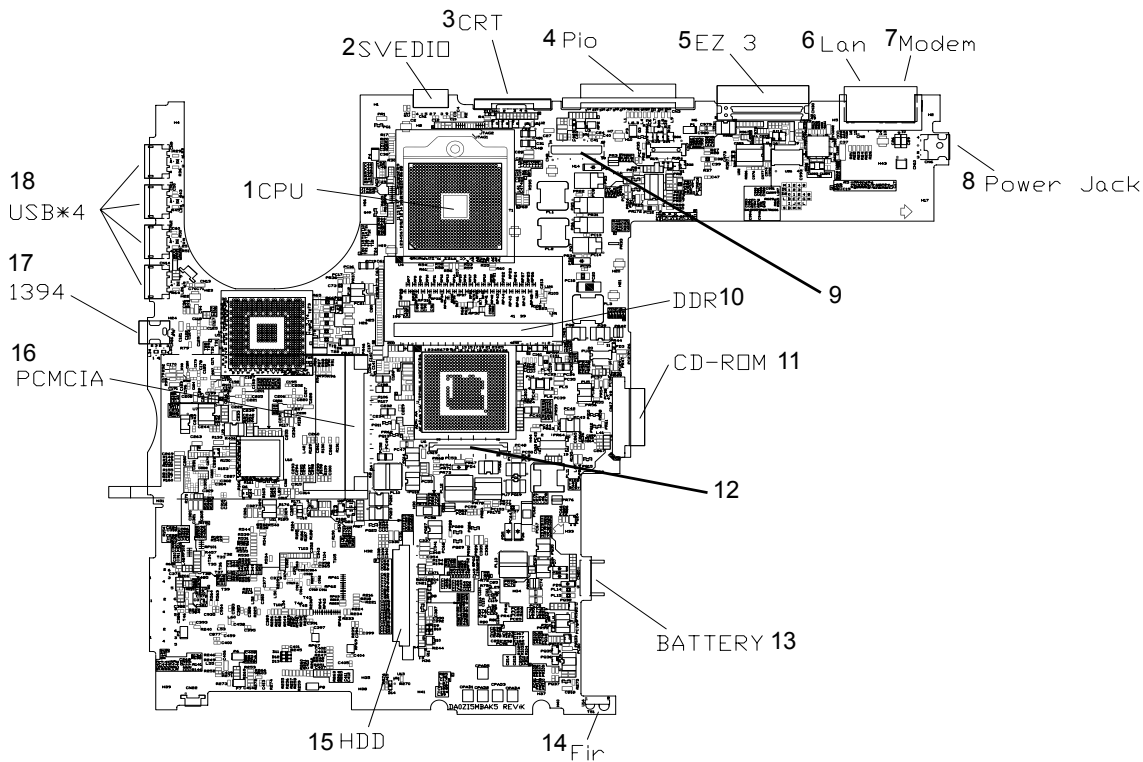


8. You will see the screen displaying “PASS” when the system has buit NAPP Master hard disc drive.



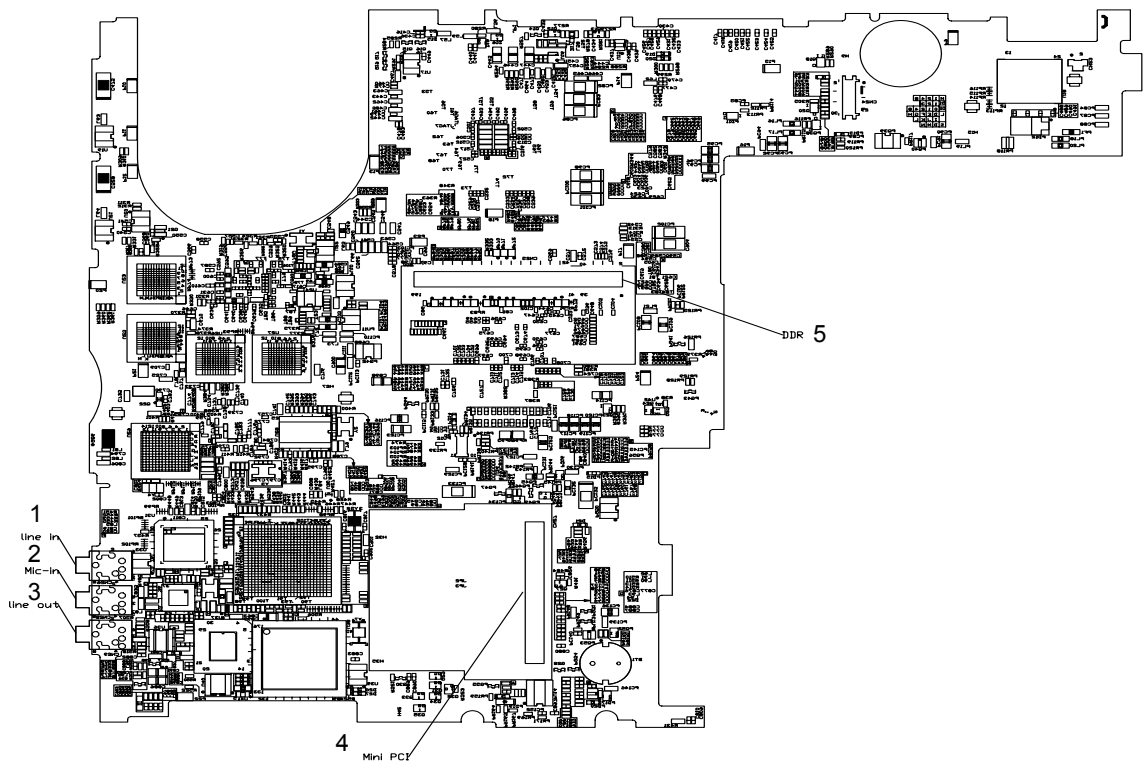
Jumper and Connector Locations

Top View



| | | | | | |
|---|------|--------------------|----|-----------------------|-------------------------------------|
| 1 | U4 | CPU socket | 10 | CN15 | DIMM Socket |
| 2 | CN1 | S-video port | 11 | CN17 | Optical drive connector |
| 3 | CN4 | CRT | 12 | CN19 | Keyboard connector |
| 4 | CN3 | Printer port | 13 | CN20 | Main battery connector |
| 5 | CN30 | EazyPort connector | 14 | U14 | FIR |
| 6 | CN2 | RJ45 | 15 | CN21 | HDD connector |
| 7 | CN2 | RJ11 | 16 | CON1 | PCMCIA slot |
| 8 | CN6 | Power jack | 17 | CN16 | IEEE 1394 port |
| 9 | CN8 | LCD connector | 18 | CN9, CN11, CN13, CN14 | Four USB ports (from top to bottom) |

Bottom View



- | | | |
|---|------|-------------------------|
| 1 | CN26 | Line-in connector |
| 2 | CN28 | Microphone-in connector |
| 3 | CN29 | Line-out connector |
| 4 | CN27 | Mini PCI connector |
| 5 | CN25 | DIMM socket |

FRU (Field Replaceable Unit) List

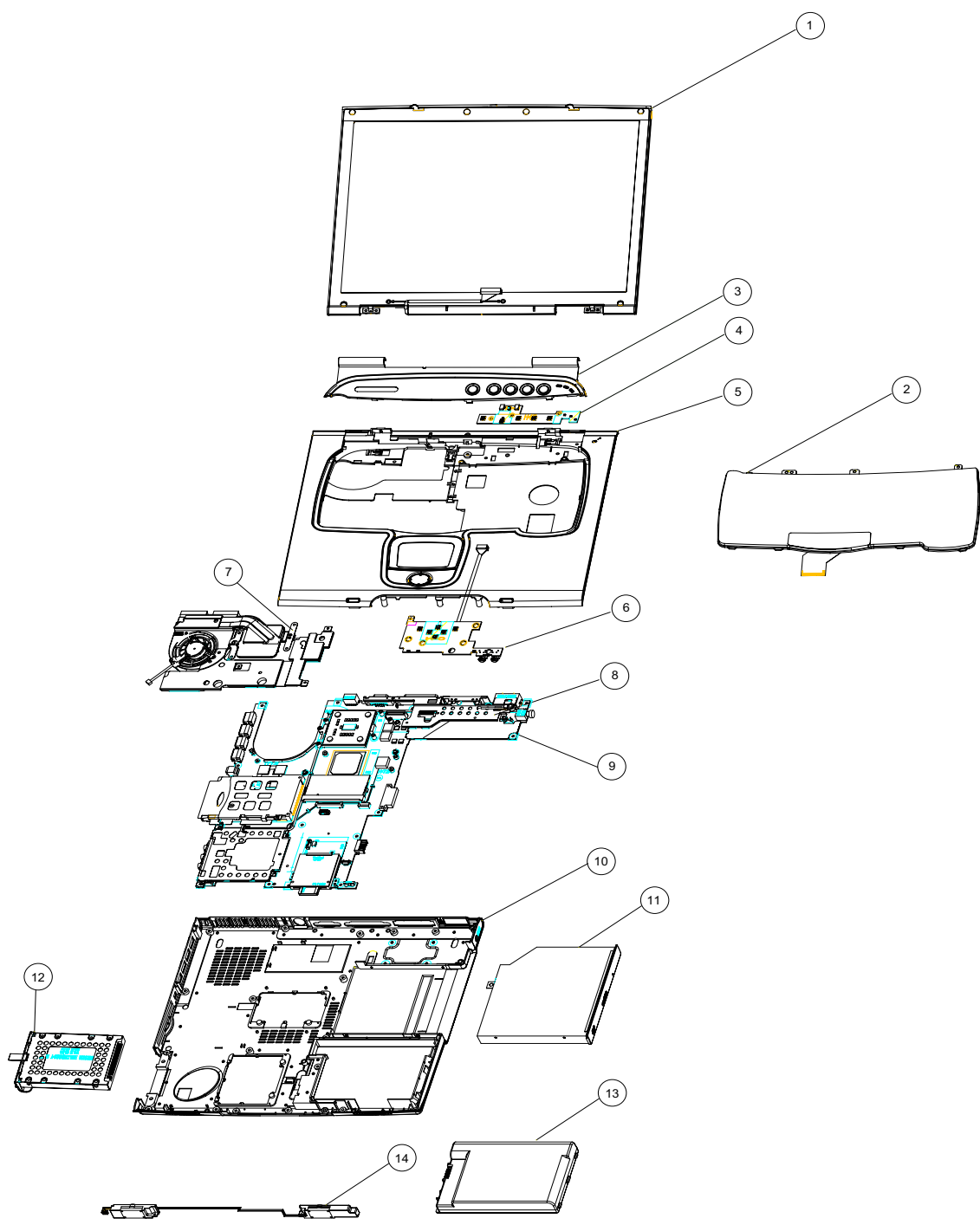
This chapter gives you the FRU (Field Replaceable Unit) listing in global configurations of Ferrari 3400 series products. Refer to this chapter whenever ordering for parts to repair or for RMA (Return Merchandise Authorization).



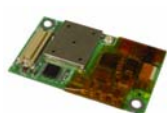




Please note that WHEN ORDERING FRU PARTS, you should check the most up-to-date information available on your regional web or channel. For whatever reasons a part number change is made, it will not be noted on the printed Service Guide. For ACER AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code from those given in the FRU list of this printed Service Guide. You MUST use the local FRU list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

NOTE: To scrap or to return the defective parts, you should follow the local government ordinance or regulations on how to dispose it properly, or follow the rules set by your regional Acer office on how to return it.








NOTE: Exploded diagram is not ready as service CD released. We will update the service guide to CSD website, please download the exploded diagram from the website if you need the files

Exploded Diagram



| Picture | No. | Partname And Description | Part Number |
|---|-----|--|--------------|
| Adapter | | | |
|  | NS | ADAPTER LITE- ON PA-1900-05QA 3PIN W/ LED 90W | AP.A1003.001 |
| | | ADAPTER LSE 0202C1990 3PIN W/LED 90W | AP.A1007.001 |
| Battery | | | |
|  | 13 | BATTERY SANYO LI-ION 8CELL (4UR18650F-2-QC-ZG1, 4400mAh) | BT.FR103.001 |
| | | BATTERY SIMPLO LI-ION 8CELL (LI-ION BATTERY PACK ZG14S2P, 4400mAh) | BT.FR107.001 |
| Boards | | | |
|  | NS | MODEM CARD (Ambit T60M283.10) | 54.T29V7.001 |
| | NS | MODEM /BLUETOOTH COMBO BOARD AMBIT T60M665.00 | 54.T23V7.002 |
|  | NS | WIRELESS LAN BOARD (802.11g) WNC KM8-1 | 54.A13V7.001 |
|  | 4 | LAUNCH BOARD | 55.T23V7.001 |
|  | NS | TOUCH PAD BOARD W/CABLE | 55.T23V7.002 |
| Cables | | | |
|  | NS | TOUCHPAD CABLE | 50.T23V7.001 |

| Picture | No. | Partname And Description | Part Number |
|---|-----|---|--------------|
|  | NS | MODEM CABLE | 50.FR2V7.001 |
|  | NS | COVER SWITCH CABLE | 50.T23V7.003 |
| | NS | POWER CORD US (3 pin) | 27.A03V7.001 |
| | NS | POWER CORD EU (3 Pin) | 27.A03V7.002 |
| | NS | POWER CORD PRC (3 Pin) | 27.A03V7.003 |
| | NS | POWER CORD UK (3 PIN) | 27.A03V7.004 |
| | NS | POWER CORD ITALIAN (3 PIN) | 27.A03V7.005 |
| | NS | POWER CORD DANISH (3 PIN) | 27.A03V7.006 |
| | NS | POWER CORD AU (3 PIN) | 27.A03V7.008 |
| | | POWER CORD AF (3 PIN) | 27.T48V7.001 |
| Case/Cover/Bracket Assembly | | | |
|  | 3 | MIDDLE COVER W/ NAME PLATE | 42.FR3V7.001 |
|  | NS | DIMM DOOR W/SCREW | 42.FR1V7.002 |
| | | LOWER CASE W/SPEAKER AND ANTENNA | 60.FR3V7.001 |
|  | 5 | UPPER CASE W/TOUCHPAD HOLDER | 60.FR2V7.002 |
|  | 10 | LOWER CASE W/SPEAKER W/O ANTENNA | 60.FR3V7.002 |
|  | NS | FRONT BEZEL FOR 4 IN 1 MODEL | 42.T23V7.003 |
|  | NS | TOUCH PAD SHIELDING FOR TOUCH PAD BOARD | 33.T23V7.001 |

| Picture | No. | Partname And Description | Part Number |
|---|-----|---|--------------|
|  | NS | WIRELESS BOARD COVER | 42.FR1V7.003 |
|  | 8 | I/O BRACKET W/MICROPHONE | 33.FR2V7.001 |
|  | NS | TOUCHPAD BOARD BUTTON | 33.T41V7.001 |
| Communication Module | | | |
|  | NS | BLUETOOTH ANTENNA | 50.T23V7.004 |
|  | NS | WIRELESS LAN ANTENNA Y CABLE | 50.FR2V7.002 |
| CPU | | | |
| | NS | AMD Athlon64 3000+(REV CG) 35W Low-Voltage OPGA | KC.A3002.35W |
| HDD/ Hard Disk Drive | | | |
| | 12 | HDD 2.5 IN. 80G HGST MORAGA IC25N008ATMR04-0 AD4A | KH.08007.007 |
| | | HDD 2.5 IN. 80G TOSHIBA PLUTO MK8025GAS | KH.08004.001 |
|  | NS | HDD COVER | 42.FR1V7.005 |
| | NS | HDD CASE | 33.T23V7.004 |
| | NS | HDD HOLDER | 33.FR2V7.003 |
| Keyboard | | | |
|  | 2 | KEYBOARD DARFON US INTERNATIONAL | KB.T4107.001 |
| | | KEYBOARD DARFON CHINESE | KB.T4107.002 |
| | | KEYBOARD DARFON SPANISH | KB.T4107.003 |
| | | KEYBOARD DARFON THAI | KB.T4107.004 |
| | | KEYBOARD DARFON BRAZILIAN PROTUGESE | KB.T4107.005 |

| Picture | No. | Partname And Description | Part Number |
|---|-----|--|--------------|
| | | KEYBOARD DARFON UK | KB.T4107.007 |
| | | KEYBOARD DARFON GERMAN | KB.T4107.008 |
| | | KEYBOARD DARFON ITALIAN | KB.T4107.009 |
| | | KEYBOARD DARFON FRENCH | KB.T4107.010 |
| | | KEYBOARD DARFON SWISS/G | KB.T4107.011 |
| | | KEYBOARD DARFON PORTUGUESE | KB.T4107.012 |
| | | KEYBOARD DARFON ARABIC | KB.T4107.013 |
| | | KEYBOARD DARFON BELGIUM | KB.T4107.014 |
| | | KEYBOARD DARFON SWEDEN | KB.T4107.015 |
| | | KEYBOARD DARFON CZECH | KB.T4107.016 |
| | | KEYBOARD DARFON HUNGAIAN | KB.T4107.017 |
| | | KEYBOARD DARFON NORWAY | KB.T4107.018 |
| | | KEYBOARD DARFON DANISH | KB.T4107.019 |
| | | KEYBOARD DARFON TURKISH | KB.T4107.020 |
| | | KEYBOARD DARFON CANADIAN FRENCH | KB.T4107.021 |
| | | KEYBOARD DARFON GREEK | KB.T4107.023 |
| | | KEYBOARD DARFON RUSSIAN | KB.T4107.024 |
| LCD | | | |
|  | 1 | LCD MODULE 15" TFT SXGA+ CMO IDT N150P3 W/ANTENNA | 6M.FR2V7.003 |
| | | LCD MODULE 15 IN. TFT SXGA+ AU B150PG03 W/ANTENNA | 6M.FR3V7.001 |
| | | LCD MODULE 15 IN. TFT SXGA+ QDI 156FL02 185 NITS W/ANTENNA | 6M.FR3V7.002 |
|  | NS | LCD 15" TFT SXGA+ CMO IDT N150P2-L04 | LK.1500D.003 |
| | | LCD 15 IN . SXGA+ AU B150PG03 200 NITS SPWG-B | LK.15005.008 |
| | | LCD 15 IN. SXGA+ QDI 156FL02 185 NITS SPWG-B | LK.15009.007 |
|  | NS | INVERTER BOARD W/MAYLAR E SUMIDA 53261-0590 | 19.T23V7.011 |
|  | NS | LCD BRACKET 15" RIGHT W/HINGE | 33.T23V7.007 |
|  | NS | LCD BRACKET 15" LEFT W/HINGE | 33.T23V7.008 |

| Picture | No. | Partname And Description | Part Number |
|---|-----|---|--------------|
|  | NS | LCD PANEL WITH LOGO-15" | 60.FR2V7.003 |
|  | NS | LCD BEZEL 15" | 42.FR1V7.006 |
|  | NS | LCD COAXIAL CABLE FOR 15" XGA spwg-B | 50.T23V7.021 |
| Main Board | | | |
|  | 9 | MAINBOARD 128MB VGA K8T800 W/SMART CARD READER,PCMCIA SLOT,W/O CPU MEMORY | LB.FR306.001 |
|  | NS | PCMCIA SLOT | 22.A13V7.001 |
| Memory | | | |
|  | NS | 256MB DDR333 NT256D64SH8BAGM-6K NANYA | KN.25603.009 |
| | | 256M Infineon SO-DIMM DDR333 HYS64D32020GDL-6-C (.11u/B) | KN.25602.022 |
| | | 256MB DDR333 MT8VDDT3264HDG-335C3 MICRON | KN.25604.009 |
| | | 512MB DDR333 HYS64D64020GBDL-6-B INFINEON | KN.51202.007 |
| | | MEMORY DDR333 512MB INFINEON HYS64D64020GBDL-6-C (.11u) | KN.51202.013 |
| | | MEMORY DDR333 512MB SAMSUNG M470L6524BT0-CB300 | KN.5120B.006 |
| Optical Drive | | | |

| Picture | No. | Partname And Description | Part Number |
|---|-----|---------------------------------------|--------------|
|  | 11 | DVD SUPER MULTI MODULE 4X MKE-825-CQB | 6M.FR2V7.001 |
|  | NS | DVD SUPER MULTI 4X MKE-825-CQB | KU.00407.009 |
|  | NS | DVD SUPER MULTI BEZEL FOR MKE | 42.FR2V7.001 |
|  | NS | OPTICAL DEVICE BRACKET | 33.FR2V7.002 |
| Pointing Device | | | |
|  | NS | TOUCHPAD | 56.FR1V7.001 |
| | | FERRARI 3200 MOUSE | MS.FR207.001 |
| Speaker | | | |
| | 14 | SPEAKER SET | 6K.T23V7.002 |
| Heatsink | | | |
|  | 7 | THERMAL MODULE | 60.FR2V7.004 |
|  | NS | VGA MEMORY HEATSINK | 34.A13V7.002 |
| | | NB HEATSINK | 34.FR2V7.001 |
| | | CHIP SINK | 34.FR2V7.002 |
| Reader | | | |

| Picture | No. | Partname And Description | Part Number |
|---|-----|----------------------------|--------------|
|  | NS | 4 IN 1 READER | 6K.FR2V7.001 |
| Others | | | |
| | NS | LCD LATCH W/O SPRING | 6K.FR1V7.001 |
| | NS | LCD SCREW RUBBER UPPER | 47.T23V7.001 |
| | NS | LCD SCREW RUBBER LOWER | 47.T23V7.002 |
| Screws | | | |
| | NS | NUT-I/O | 86.T23V7.001 |
| | NS | SCREW M1.6X4.0-I-NI-NYLOK | 86.T23V7.002 |
| | NS | SCREW M2.0X2.5-I-NI-NYLOK | 86.A03V7.007 |
| | NS | SCREW M2.0X3.0-I-NI-NYLOK | 86.A03V7.012 |
| | NS | SCREW M2.0X3.5-I-NI-NYLOK | 86.T23V7.005 |
| | NS | SCREW M2.0X5-I-NI-NYLOK | 86.T23V7.006 |
| | NS | SCREW M2.5X3-I-NI-NYLOK | 86.A03V7.010 |
| | NS | SCREW M2.5X4.0-B-NI-NYLOK | 86.T23V7.008 |
| | NS | SCREW M2.5X4-I-NYLOK | 86.T23V7.009 |
| | NS | SCREW M2.5X5.0-I-NI-NYLOK | 86.T23V7.010 |
| | NS | SCREW M2.5X5.5-P-NI-NYLOK | 86.T23V7.011 |
| | NS | SCREW M2.5X0.45+7I-NYLOK | 86.T23V7.012 |
| | NS | SCREW M1.7X3.5-I-BZN | 86.A03V7.009 |
| | NS | SCREW M2X3-I-BNI-NYLOK | 86.T23V7.014 |
| | NS | SCREW M2.0X5.0-I-BNI-NYLOK | 86.T23V7.015 |
| | NS | SCREW M2.0X6.0-I-NI-NYLOK | 86.T23V7.017 |
| | NS | SCREW M2.5X2-I-NI-NYLOK | 86.T23V7.018 |
| | NS | SCREW M2.5X4-I-BNI | 86.T23V7.019 |

Model Definition and Configuration

Ferrari 3400 Series

| Model Number | CPU | LCD | Memory | HDD (GB) | ODD | Card Reader |
|--------------|------------------------|------------------------|---------|----------|-----------------------|-------------|
| 3400LMi | Athlon 64 3000+ 35W | 15.0" SXGA + 200nit | 2*256MB | 80GB | Slot 4x DVD-SMulti | 4 in 1 |
| | | | | | | |
| | | | | | | |

| Wireless LAN | Model Number | MDC(Bluetooth) | VGA |
|---------------------------|--------------|----------------|---|
| wired&wireless 802.11g | 3200LMi | BT | ATI Mobility Radeon 9700 128MB |
| | | | |
| | | | |

Test Compatible Components

This computer's compatibility is tested and verified by Acer's internal testing department. All of its system functions are tested under Windows® XP Home.

Refer to the following lists for components, adapter cards, and peripherals which have passed these tests. Regarding configuration, combination and test procedures, please refer to the Ferrari 3400 series Compatibility Test Report released by the Acer Mobile System Testing Department.

Microsoft® Windows® XP Home Environment Test

| Item | Specifications |
|---------------------------------------|--|
| Processor | AMD Athlon64 3000+(rev CG) 35W Low-Voltage OPGA |
| Memory | 256MB Infineon CHYS64D32020HDL-6-C 256MB Nanya NT256D64SH8BAGM-6K 256MB Micron MT8VDDT3264HDG-335C3 512MB Infineon HYS64D64020GBDL-6-C 512MB Samsung M470L6524BT0-CB3 512MB Micron MT16VDDF6464HG-335C2 1GB Elpida EBD11UD8ADDA-6B |
| LCD | 15" SXGA+ TFT HannStar HSD150PK14-A CMO N150P2-L04 |
| Hard Disk Drive | 80GB HGST Moraga IC25N080ATMR04-0 08K635 AD4A Toshiba PLUTO MK8025GAS ,8MB |
| DVD Super Multi | Panasonic UJ-825-CQB [slot type Super Multi] (F/W:D100, but PCC P/N is UJ-825-CQB) |
| AC Adapter | Lite_On PA-1900-05QA(PFC), 3pins 90W Li_Shin 0202C1990(PFC), 3pins 90W |
| Battery | Sanyo Lilon 4.4Ahr 8cell SIMPLO Lilon 4.4Ahr 8cell (Panasonic cell) |
| Network Adapters | |
| Gigabit LAN Hub | 3COM SUPER STACK II \ 3C16611 24port |
| LAN Ethernet/10baseT/100base | 3COM Lan Card (3CCFE574BT) D-Link Fast Ethernet DFE-650 D-Link CardBus DFE-660 |
| Multifunction Card (Combo) | Xircom CardBus (CBEM56G-100) |
| Wireless LAN Card | Quanta Wireless LAN Card \ WL-211F Intel(R) PRO / Wireless 2011B LAN PC Card D-Link Air Pro 5GHZ Wireless CardBus DWL-A650 |
| Modem Adapters | |
| Modem (up to 56K) | 3Com 56K Modem (3CXM756) Xircom 56K Modem (CM-56G) Psion - Gold Card Glabal 56K+Fax |
| I/O Peripheral | |
| I/O - Display(LCD) | Akia KX1 Monitor Compaq TFT 5004 Compaq FP745A |
| I/O - Display(CRT) | ViewSonic GS790 Dell Trinitron 21' ViewSonic GS773 ViewSonic GT7755 ViewSonic PF775 |
| I/O - Projector | Acer 7755C Panasonic PT-L757EA |
| I/O - Legacy (Parallel) Printer/Cable | HP Laser Jet 5M HP Desk Jet 840C Canon BJC-3000 ECP Cable (LL5) |

| Item | Specifications |
|--|---|
| I/O - Storage Device(Parallel) | IOMega ZIP 100 (LPT Port) |
| I/O - 1394 | 1394 HDD 1394 External HDD CASE-OXFORD IDE Device 1394 CCD (APLUX C102T) 1394 DV:JVC GR-D70U 1394 Cable P to P(Pci_) |
| I/O - USB Hub | Adaptec\4 Port USB 2.0 interface Highspeed\4 Port USB 2.0 interface |
| I/O - USB Storage Drive | VIPower(Smart Family Disk) HDD USB interface YAMAHA CD/RW-70 CD-ROM USB interface Pioneer DVR-104 DVD/CD-RW combo USB interface Ricoh MP5125A DVD/CD-RW combo USB interface IOMega USB ZIP 650 IOMega USB ZIP 250 Acer Y-E Data FDD Teac USB FDD HD 530 Tested to comply with FCC Standards (external HDD case) Iwill 6-in-1 card reader |
| I/O-USB Flash Drive | BenQ 256MB JMTEK USB DRIVE 128MB |
| I/O - USB Keyboard/Keypad/Mouse | Microsoft Internet Keyboard Pro SILITEK LUNARIS-TK-LU2BSV USB keypad Logitech K/B+Mouse+ receiver Tarus Genius Usb wheel mouse Intel Agua cypress mouse Logitech Wheel Mouse M-BJ58 Acer USB Mouse MP0930 |
| I/O - USB (Printer/Scanner) | HP psc 2110 all-in-one office machine USB port\ C8644A HP DiskJet 3425 Colour inklet printer HP DeskJet 840C HP DeskJet 930C HP DeskJet 450 Canon BJC-3000 HP ScanJet 5300c |
| I/O - USB (Camera) | Flexicom A300 USB web camera Logitech QuickCam Express Dlink WebCam DSB-C300 |
| I/O - USB LAN | LINKSYS USB Network Adapter Billionton USB-10/100 FastEthernet |
| I/O - USB Speaker | Philips USB Speaker (DIGITAL Speaker System) |
| I/O - USB Gamepad | Logitech WingMan RUMBLEPAD |
| I/O - USB to Serial Transfer Connector | GMUS-03 |
| I/O - Audio Jacks (Speaker) | DENON Amplifier AVR-1802 LOUDSPEAKER Gateway Speaker SANYO 3D Speaker/OTTO-301 JS 3D Speaker /J-2202 |

| Item | Specifications |
|------------------------------|--|
| I/O - Audio Jacks (Earphone) | Panasonic Earphone AIMA Earphone AIWA HP-X121 Earphone AOC STEREO DYNAMIC HEADPHONES AHP-850 PHILIPS Stereo Headphone SBC HP090 Condenser MIC. EM-420T |
| I/O Access Point (802.11a/b) | Intel Pro/Wireless 5000 LAN Dual |
| PCMCIA | |
| PCMCIA - Card Reader | Apapter PCMCIA 4 in 1 PQI CF CARD Reader PNY PCMCIA 4 in 1 |
| PCMCIA - LAN | 3COM Lan Card (3CCFE574BT) Xircom CardBus Ethernet II 10/100 (CBE2-100) |
| PCMCIA - SCSI | Adaptec SlimSCSI APA-1460D Card Adaptec SlimSCSI 1480A CardBus UltraSCSI Card |
| PCMCIA - ATA | IBM Microdrives 1GB Adapter 4 in 1 CardReder Card+Transcend 128MB PQI Compact Flash Card+PQI CF Card 128 MB |
| PCMCIA - ZIP | Zip Card:ZIOMEGA USB ZIP 250 |
| PCMCIA - 1394 | VST FireWire CardBus Card |
| PC Cards | MMC Card: Apacer 64MB SanDisk 64MB MS Card: Apacer 128MB Sony Memory Stick 128MB Sony Memory Pro (MS Card) 256MB SD Card: Toshiba 256MB AGIWARA SYS-COM 128MB Apacer 128MB SM Card: Transcend 128MB SanDisk 128MB CF Card Transcend CompactFlash (CF Card) 512MB SanDisk 128MB |
| S-Video | TV: Sony Trinitron 14" \ PVM-14M4U Sony Trinitron 14" \ PVM-14M2U |

Online Support Information

This section describes online technical support services available to help you repair your Acer Systems.

If you are a distributor, dealer, ASP or TPM, please refer your technical queries to your local Acer branch office. Acer Branch Offices and Regional Business Units may access our website. However some information sources will require a user i.d. and password. These can be obtained directly from Acer CSD Taiwan.

Acer's Website offers you convenient and valuable support resources whenever you need them.

In the Technical Information section you can download information on all of Acer's Notebook, Desktop and Server models including:

- ☐ Service guides for all models
- ☐ User's manuals
- ☐ Training materials
- ☐ Bios updates
- ☐ Software utilities
- ☐ Spare parts lists
- ☐ TABs (Technical Announcement Bulletin)

For these purposes, we have included an Acrobat File to facilitate the problem-free downloading of our technical material.

Also contained on this website are:

- ☐ Detailed information on Acer's International Traveler's Warranty (ITW)
- ☐ Returned material authorization procedures
- ☐ An overview of all the support services we offer, accompanied by a list of telephone, fax and email contacts for all your technical queries.

We are always looking for ways to optimize and improve our services, so if you have any suggestions or comments, please do not hesitate to communicate these to us.

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